

AMERICAN GAS ASSOCIATION

Monthly

JANUARY
1951



You can stake a Claim in Outer Space
while GAS works for you
in Research and Production

YOUR HORIZONS ARE UNLIMITED because science breaks thru every boundary of space and time with new materials and new methods. In laboratories and production-lines where the work on rockets and atoms is carried out, GAS performs myriad tasks to facilitate your explorations in outer space, to validate your stake in the regions beyond the earth.

RESEARCH COMES FIRST in this vast project. Gas plays its first important role in the laboratory. Here the versatility of Gas is demonstrated by its use in stills, ore roasters, Bunsen burners, blow pipes, evaporators, combustion furnaces, dryers. These few uses are but a prelude to even more vital tasks for Gas when laboratory findings reach—

THE MANUFACTURING STAGE where the metals required for actual explorations are produced. First in iron, steel, copper, silver—then in aluminum, magnesium, beryllium, molybdenum, and other rarer metals and elements, the role of Gas in refining, alloying, fabricating expands with each new heat-processing requirement. Then we need large quantities of—

CHEMICALS FOR PROPULSION, because the penetration of outer space is a complete operation in which delicate processes are developed on a vast scale. Once again Gas supplies the heat and frequently the combustion by-products for desiccating, calcining, melting, catalytic conversions, assaying. Aside from the actual processing, Gas has also played its vital part in the development and manufacture of the control equipment for these manufacturing operations, and for the actual explorations.

IN YOUR OWN RESEARCH AND PRODUCTION, even though you may not be concerned directly with these quests in outer space, you'll find versatile Gas a most valuable and dependable tool. Since the expanding role of Gas is almost as unlimited as your horizons in outer space, you'll find it worthwhile to investigate this essential fuel.

AMERICAN GAS ASSOCIATION

420 LEXINGTON AVENUE • NEW YORK 17, NEW YORK





This month's cover: High temperature radiant gas burners hardening nose of large diameter shell. Photo, Selas Corp. of America

THE wheels are moving fast—American industry is mobilizing for the acid test. In 1951 this country will be called upon to prove that its production capacity is the greatest on earth. . . . Gas will play a prominent role in this gigantic conversion. Gas will help to make guns, tanks, planes and ships. Gas will be used in the factory and in the home—a thousand different ways. . . . At the same time, our plants and employees will be faced with the possibility of subversive activity and even enemy action. Our executives, already overburdened with duties, will have to shoulder new responsibilities. They will have to rush to completion detailed plans for protection against sabotage, espionage and enemy attack. They will have to find more effective means of preventing employee accidents. Plant defense coordinators will have to be set up. Safety directors will have to be given stronger backing than ever before. Every man will have to be assigned a job. Only in this way, by working together, can the big job be done. . . . Inspired teamwork of employees, executives and A. G. A. can make 1951 an epic year for our industry and our nation.

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THE MONTHLY IS INDEXED BY THE INDUSTRIAL ARTS INDEX
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How well is your company



*Survey of 18 strategically located
gas companies discloses vital steps for protection*

nprotected

- against sabotage?
- against espionage?
- against enemy attack?

• The accompanying article on personnel and plant protection may be of interest to others in your company. Reprints are available at cost from A. G. A. MONTHLY, American Gas Association, 420 Lexington Ave., New York 17, N. Y.

Would your personnel and plant be protected if disaster struck tomorrow? Does your company have a working program to guard against sabotage, espionage and enemy attack—a program that is in effect, ready for any emergency?

Probably no question facing management today is as complex as that of plant and personnel protection. Protection against any eventuality—against sabotage by a Fifth Column; espionage by enemy agents and sympathizers; sudden attack by A-bomb, conventional bombing, gas or germ warfare.

Already engaged with the United Forces in the Far East, the United States probably will be on a national emergency footing by the time this article appears. Therefore, the importance of the problem. Adding urgency to the need for preparedness is the fact that utilities and their employees undoubtedly would be among the first targets of enemy action. Disruption of gas, power, telephone and water supplies would seriously hamper the defense effort; could foster panic in local populations.

Fortunately, effective precautionary steps have been adopted by civilian defense planners and management in many areas. Each of the 48 states has devised some sort of civil defense organization. Farsighted managements have spurred their organizations to tie-in company plans with the civilian groups. Unfortunately, however, far too many company defense plans are still in the drafting stage. Other plans, while reasonably complete, have yet to be placed in full operation.

Noting the seriousness of the situation, the MONTHLY has privately surveyed 18 large and small gas companies strategically located throughout the United States. The following analysis and summary based on this study should offer helpful suggestions to those companies that are just getting under way on defense planning and also to companies whose plans are relatively well advanced. Some of the suggestions noted below have been supplied by the Department of Defense, Munitions Board, the federal agency in charge of protecting plants vital to mobilization. Additional background material has been obtained from *American Machinist* magazine whose section on "Disaster Control" (November 13, 1950, McGraw-Hill, New York, N. Y.) is one of the most comprehensive summaries yet published.

One of the most authoritative guide books on this subject is "Principles of Plant Protection," published August 1, 1950 by the Munitions Board, U. S. Department of Defense. Available from the Superintendent of Documents in Washington, D. C. at 15 cents a copy, this booklet is a broad, basic

outline of general and specific steps that can be taken now to prepare for any possible future emergency.

An ever-growing number of companies are using this publication as the basis for bringing their plant protection programs up-to-date. Other companies are adopting their own programs based on local conditions.

Who is responsible for achieving plant protection?

The Munitions Board answers that question this way: "The responsibility for plant protection rests basically with management, certainly to the extent of planning the preventive measures that should be taken and putting into effect those that do not materially increase costs. No outside agency is in a position to determine what the danger spots are and the most effective means of reducing hazards. However, plant management should maintain liaison with local military commanders."

In event of a future war, just what hazards would face industry? "Principles of Plant Protection" lists these as espionage, sabotage, and enemy attack.

"In general," the booklet states, "espionage can be rendered ineffective by the following measures: a careful loyalty check of personnel, particularly before employment; prevention of unauthorized entry to the premises; special guarding and handling of classified material; restriction of movement within the plant and alerting of employees and others who may have information on plant activities."

Effective physical measures against sabotage include fencing, special electronic devices to detect intruders, keeping entrances protected and at a minimum, screening vulnerable openings and special physical protection to key machines and equipment.

Now, for a specific problem. You are the executive vice-president of a medium-sized gas company in a strategic section of the country. You have just been ordered to institute a broad program that would prepare your employees and your plant for any disaster. Where would you start?

There is no better place to start than right at home. Are you yourself completely sold on the dangers of sabotage, espionage and enemy attack? Would you be giving mere lip service to such a program?

We suggest that you contact immediately, the local authorities—state, county and local—in charge of civilian defense. Ask them about the urgency of the problem. Discuss your company situation and ask their suggestions. Get a copy of the Munitions Board's pamphlet "Principles of Plant Protection." Check the National Industrial Conference Board for up-to-date information. Read up on the Nagasaki and Hiroshima bombings.

While you are doing an educational job on yourself, there are certain definite steps which should be taken to get your

company's program under way. For instance, you could survey strategic personnel to determine their abilities to aid in the defense program. Employees with military service should be used wherever possible.

Second in importance, is a thorough check of plant and equipment to determine points most open to sabotage or other enemy action. Initiate an immediate tightening of security measures—include the mails and all vital documents.

Dust off any defense plans used in the last war. Discuss your problems with officials of other companies that already have instituted full precaution programs. Select and appoint a trusted, capable man in your organization to serve as *plant defense coordinator*. By this point you should be in business!

Next step is to prepare a specific program with the double purpose of preventing sabotage and espionage and reducing damage in event of attack.

You may be asked questions such as these: "Suppose a real emergency never arises? Suppose this country remains in a 'cold war' or armed peace? Wouldn't the fact that my plant had developed such an extensive defense program make us look ridiculous?"

Your answer "Definitely not! A scientific anti-disaster program can be used to meet such peacetime disasters as flood, fire, explosion, etc."

There is, however, a danger of overselling as well as of underselling your preparedness program. Design your planning so that it will safeguard company operations rather than interrupt them. Make it a long-range program—ready now or five years from now—ready in war or peacetime emergency.

Here is a suggested list of steps that should be considered:

(1) Select and train personnel.

(2) Select a plant defense coordinator with full responsibility for the protection program.

(3) Analyze all company plant and property to determine critical control points.

(4) Establish liaison with local civilian defense organizations.

(5) Establish a well-protected, staffed and equipped headquarters or control room.

(6) Set up and maintain a secure communications system that will continue to function in emergency.

(7) Prepare absolute identification for all company employees and plant visitors.

(8) Prepare defense manuals and training procedures for all key personnel.

(9) Devise adequate protection—guards, etc.—for company property.

(10) Accelerate and expand safety activities.

(11) Train employees to be guarded in their conversations about the company; how to recognize suspicious persons and actions.

(12) Encourage employees to study all available material on personal protection against atomic attack.

(13) Overhaul your company's employee police system.

(14) Prepare an emergency contact plan and emergency maps for key employees.

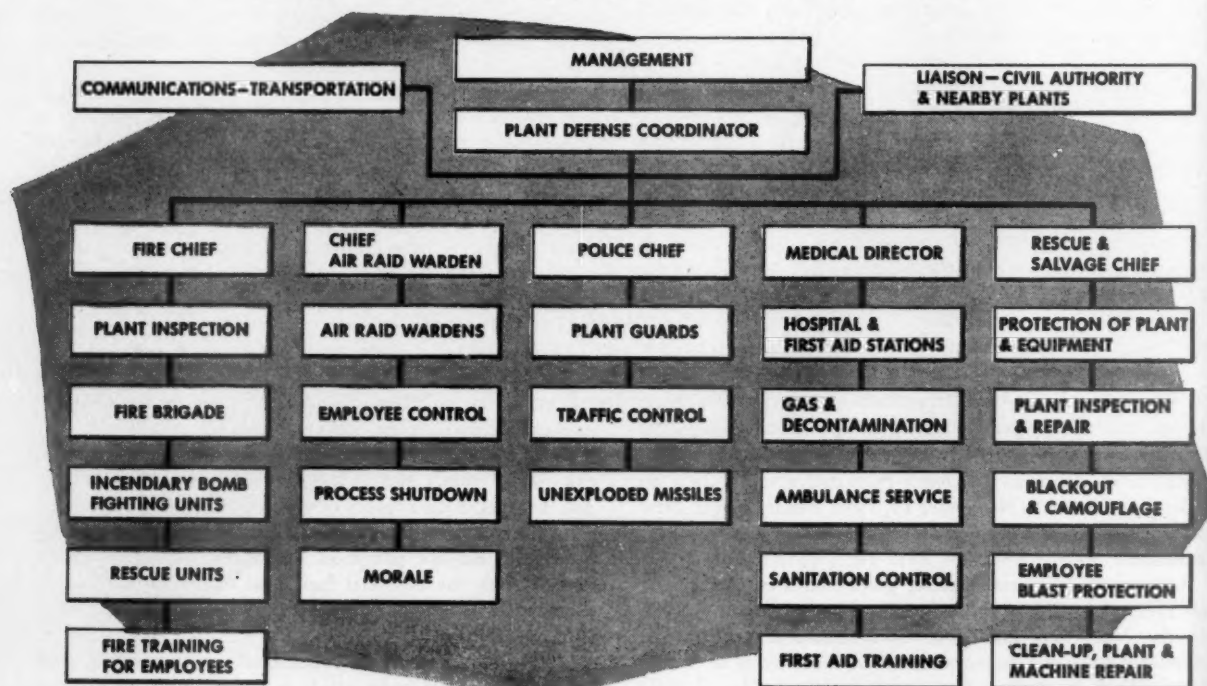
(15) Step up fire drills and inspections.

(16) If possible, move all parking areas outside the company compound.

(17) Integrate your precaution program with that of neighboring plants.

(18) Prepare a complete survey of fire fighting, chemical warfare, first aid and other types of emergency equipment.

Sample organization chart for plant protection



(19) Appoint plant air raid wardens under an over-all plan for protecting every area of the company 24 hours of the day.

(20) Depending on the company situation, prepare a confidential plan showing specific steps to assure uninterrupted production, distribution and transmission of gas in the event vital equipment and/or personnel are destroyed.

(21) Arrange for assistance by local civilian groups in case the company's personnel or plant are damaged extensively.

(22) Analyze your service situation from the customer's angle. Prepare announcements to the public for use during a major disaster.

(23) Educate all employees so that they will not fall into panic in case of attack.

(24) Provide employees with information that will enable them to arrange all possible safeguards for their homes and families.

(25) Initiate a specific program to insure security of vital maps and company records. Even the mails must be secured. Confidential material should be available only to key personnel.

(26) Review methods of selecting regular and temporary personnel.

(27) Encourage your employees to submit suggestions for the company defense program.

(28) Contact the FBI in any cases that suggest sabotage or espionage.

(29) Keep your own thinking up-to-date. Revise and improve the defense plan from time to time.

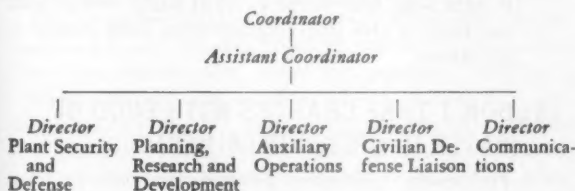
(30) Above all, keep your plant defense coordinator informed. Give him full authority. Make him responsible only to a top executive of your company.

These are by no means all the necessary steps to insure an adequate defense program. They are at least a strong step in the right direction

Following are excerpts from answers to the MONTHLY's survey showing what various gas companies have done to protect their personnel and plants.

A. Large combination company

Organized a complete defense program involving all phases of security and defense, headed by a coordinator who reports directly to the executive vice-president. Organization chart of the defense program is shown below. Both gas and electric properties and personnel are covered by this set up.

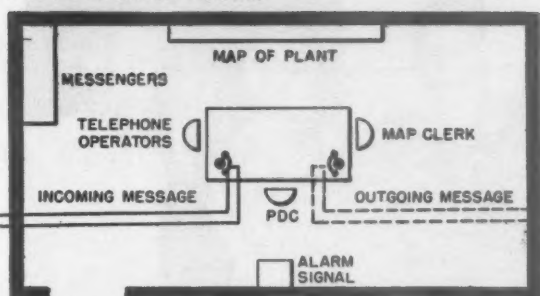


Plant security and defense—Director of plant security and defense is charged with all phases of protection of buildings, plants and personnel. Recommendations of the director are sometimes referred to other sections of the organization for further study or for installation

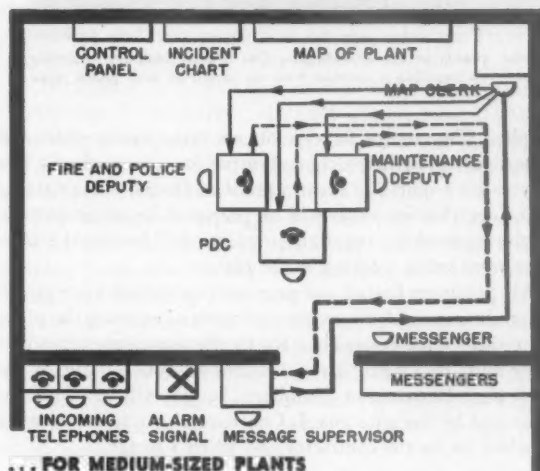
All company employees are being fingerprinted and photo-

Illustrations on pages 4 and 5 courtesy American Machinist Magazine, November 13, 1950.

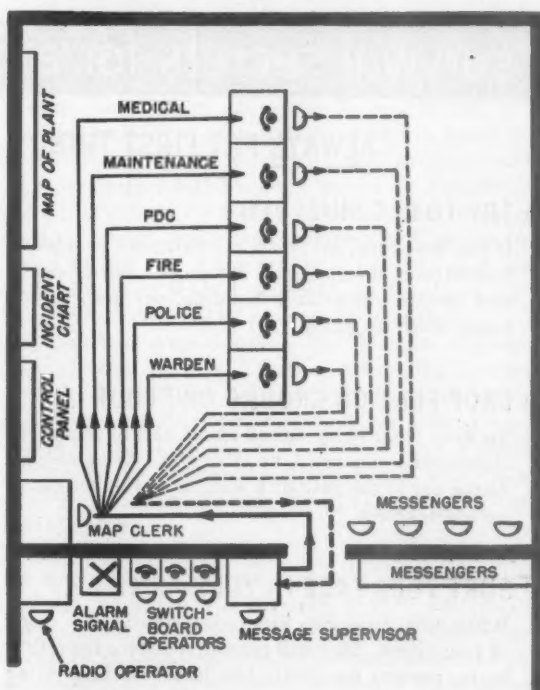
Plant control rooms



... FOR SMALL PLANTS



... FOR MEDIUM-SIZED PLANTS



... FOR LARGE PLANTS



Trainee guards of The Philadelphia Gas Works Company receiving pointers on handling a revolver from an expert of local police force

graphed. Two sets of fingerprints are being made, which will be turned over to the proper authorities for security checks. Employees are required to furnish proof of United States Citizenship. Identification cards will be prepared for all employees; employees working regularly in plants will be issued badges to be worn while working in the plant.

All plants are fenced and gates are kept locked. Gate guards are on duty to check on people and material entering the plant. All visitors must be vouched for by the plant superintendent. They must be United States Citizens or vouched for by the U. S. State Department. Numbered badges will be issued and recovered by the gate guard. Contractors' employees must be vouched for by the contractor and given a badge.

Where required, plants will be protected by perimeter lighting or black lights. Both may be used. Each plant is inspected to determine vital spot subject to damage by sabotage. Where possible and practical these installations are giving special protection. A group of plant employees will be organized to protect the installations. They will be trained in the use of firearms. Non-operating buildings, such as office and service buildings, have designated shelter areas in case of enemy attack. Wardens are to be appointed for these areas.

Parking areas have been designated at safe distances from essential buildings. Photographing of operating properties has been restricted.

A constant contact is kept with all federal and local law enforcement agencies, to keep abreast of latest developments. The Army, Navy, Coast Guard, FBI, National and State Guard, civilian defense organizations and local police are all used as sources of information. Emergency telephone lists have been prepared to contact these sources.

Communications—The director of communications is charged with the maintenance of essential contacts within the company. Of particular importance are proper contacts between the system operating group and the generating plant and substations or pumping stations. Existing telephone lines and radio communications are being augmented to provide adequate service in case of enemy attack.

Civilian defense—The director of civilian defense acts as a coordinator between the local and state organizations and the company.

Research, planning, development—This group has a multitude of tasks involving the use of materials, development of policies and programs, use of (Continued on page 52)

Six pointers below reprinted from "Survival Under Atomic Attack," U. S. Gov't Printing Office, ten cents a copy.

Six survival secrets for atomic attacks

ALWAYS PUT FIRST THINGS FIRST—NEVER LOSE YOUR HEAD

(1) TRY TO GET SHIELDED

If you have time, get down in a basement or subway. Should you unexpectedly be caught out-of-doors, seek shelter alongside a building, or jump in any handy ditch or gutter.

(2) DROP FLAT ON GROUND OR FLOOR

To keep from being tossed about and to lessen the chances of being struck by falling and flying objects, flatten out at the base of a wall, or at the bottom of an embankment.

(3) BURY YOUR FACE IN YOUR ARMS

When you drop flat, hide your eyes in the crook of your elbow. That will protect your face from flash burns, prevent temporary blindness and keep flying objects out of your eyes.

(4) DON'T RUSH OUTSIDE RIGHT AFTER A BOMBING

After an air burst, wait a few minutes then go help to fight fires. After other kinds of bursts wait at least one hour to give lingering radiation some chance to die down.

(5) DON'T TAKE CHANCES WITH FOOD OR WATER IN OPEN CONTAINERS

To prevent radioactive poisoning or disease, select your food and water with care. When there is reason to believe they may be contaminated, stick to canned and bottled things if possible.

(6) DON'T START RUMORS

In the confusion that follows a bombing, a single rumor might touch off a panic that could cost your life.

Defense notes

Activities of A.G.A. defense group designed to mobilize gas industry's resources behind the preparedness program

Declaration of a state of national emergency last month found the Association's National Defense Committee hard at work mobilizing gas industry resources behind the nation's rearmament drive. Chairman J French Robinson (president, The East Ohio Gas Co., Cleveland) and 12 other top executives are concentrating on the following subjects: excess profits, steel requirements, war damage indemnity, protection of gas industry property in World War II, manpower requirements under the defense program, and accelerated amortization.

Following are highlights of Defense Committee activities since the group's formation last July.

● **Excess profits tax**—Based on facts developed by a special subcommittee of the A. G. A. Taxation Committee, President D. A. Hulcy of A. G. A. recently testified before House and Senate committees that an excess profits tax should not apply in a regulated field such as the gas industry. He emphasized that a steady flow of capital is essential for gas companies to meet public demand, and further that adequate earnings are required to attract needed new capital.

Following extensive hearings, an excess profits bill, more adaptable to our industry than the previous one, was passed by Congress and signed by President Truman.

● **Steel requirements**—Development of a program to assure a supply-demand balance for gas and gas products has been assigned to the Department of Interior. This department has charge of programs for allocating scarce materials between and within the gas and oil industries.

Late in 1950, a comprehensive estimate of the gas industry's steel requirements was drawn up by A. G. A. Statistical Bureau based on a questionnaire to the industry. This report was presented by the National Defense Committee to our claimant agent, the Interior Department.

On December 19, the Interior and Commerce Departments conferred on steel requirements of the gas and oil industries. Annual steel needs for pipelines were set as follows: oil and gas transmission—4,200,000 tons; gas distribution—507,000 tons; natural gasoline—282,000 tons; freight—711,000 tons, a total of 5,700,000 tons for the year. However, total mill capacity in the United States is probably around four million tons. Consequently, the entire situation is being reviewed by the steel industry.

● **World War II protection experience of the gas industry**—In 1942 American Gas Association published a two-part pamphlet "War Protection of the Gas Industry." The Defense Committee plans to review this booklet and to consider the advisability of bringing it up-to-date to include effects of atomic bombing and greater protection against sabotage. Most of the material in the original book

is still valid and applicable today.

● **Manpower requirements**—A subcommittee of the A. G. A. Personnel Committee is now studying steps that should be taken by the gas industry to assure adequate manpower and also protection against sabotage from the standpoint of personnel. Chairman of this new group is the immediate past-chairman of the A. G. A. Personnel Committee, L. A. Brandt, director of employee relations, The People Gas Light & Coke Co., Chicago. Results of the group's study will be reviewed at a meeting this month and definite recommendations developed.

● **War damage indemnity**—This subject is particularly vital in view of the widespread devastation and accompanying losses which could be caused by an enemy attack on this country. It is generally recognized that private insurance companies would be unable to underwrite these hazards. Undoubtedly, the federal government would be the only agency which could marshal the necessary financial and physical resources to restore even the most urgent facilities and indemnify the most seriously affected parts of the population.

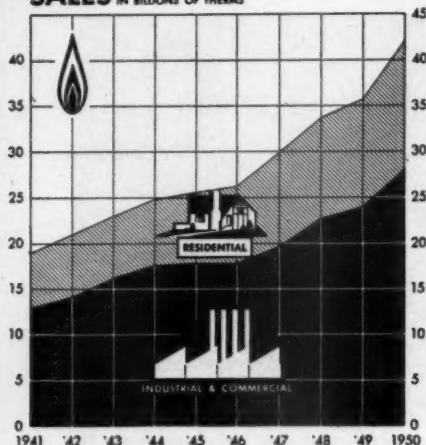
At the request of the A. G. A. Defense Committee, a special Subcommittee on War Damage Indemnity has been created. Fred H. Deckman, Columbia Engineering Corp., is chairman. This group has reviewed the gas industry's sentiments on the subject and has recommended that some form of war damage indemnity be reactivated. It emphasizes that serious consideration should be given to inclusion of coverage for workmen's compensation liability.

Subsequently a bill has been passed by the House of Representatives of the Eighty-First Congress. However, it failed to pass the Senate and therefore will have to be reviewed in the new Congress. It is expected that public hearings will be held. A statement on behalf of the gas industry probably will be presented at that time.

● **Accelerated Amortization**—The Defense Committee has asked the A. G. A. Taxation Accounting Committee to study the affect as a tax adjustment of the five-year amortization plan for facilities built for serving war installations. (R. M. Dodds, Ebasco Services Inc., is chairman of the Taxation Accounting group.) This plan was used in the last war and has some special application to a regulated industry.

A special meeting of the Defense Committee has been scheduled for January 9 in Washington, D. C. Later that day, representatives of the industry will meet with the Secretary of Interior to discuss our request for establishment of an independent agency for handling gas industry problems under the National Defense Act of 1950.

SALES IN BILLIONS OF THERMS



TREND OF UTILITY GAS SALES 1941-1950 DATA ESTIMATED

● Number of customers served, sales

Gas industry sets new records in 1950

By D. A. HULCY

*President, American Gas Association,
President, Lone Star Gas Co.,
Dallas, Texas*

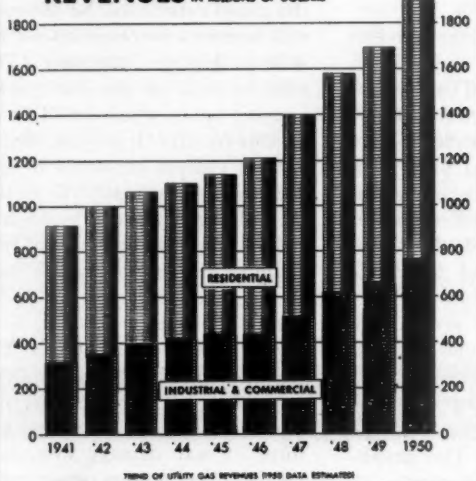
Each year since the end of World War II has seen the gas industry registering substantial gains in customers served, in volume of utility gas sold and in the amount of capital invested in plant and facilities. In the past five years, the gas industry has grown from a five billion dollar industry in 1945 to an 8¾ billion dollar industry at the end of 1950.

This spectacular growth was dramatized in 1950 when the gas industry achieved new records in numbers of customers served, in total volume of sales of utility gas, in total gas revenues and in numbers of gas appliances shipped. Capital expenditures for construction and plant expansion reached a new high level in 1950. Transmission and distribution systems of the gas industry today measure more than 375,000 miles.

Many uncertainties in both world and national outlooks make it difficult to forecast the future. The gas industry still has allocated, in its long-range program, nearly a billion dollars for its construction and expansion in 1951. Advertising and promotional plans of the industry for 1951 have as their goal a continuance of gains made by the industry last year.

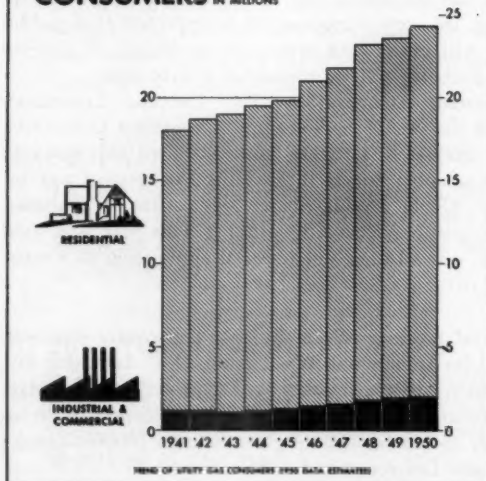
If peace prevails there is every reason to believe the gas industry will enjoy an even more successful year in 1951. At the same time, our industry stands ready now, as it has in the past, to do its full share in

REVENUES IN MILLIONS OF DOLLARS



TREND OF UTILITY GAS REVENUES 1941-1950 DATA ESTIMATED

CONSUMERS IN MILLIONS



TREND OF UTILITY GAS CONSUMERS 1941-1950 DATA ESTIMATED

Utility gas, gas revenues and appliance shipments reach new alltime peaks

helping our nation to meet any emergency that may arise.

Gas utilities at the end of 1950 were serving approximately 24,362,000 customers, including about 331,000 customers receiving LP-gas directly from utility gas mains. This was a gain of 3.3 percent over 1949 when there were 23,580,000 customers on gas utility mains. Of the total number of customers served, 14,894,000 were receiving natural gas, a gain of 12.7 percent over the previous year. Manufactured gas customers declined about 14.8 percent during the year to total about 7,197,000 at the year end. Mixed gas customers on December 31, 1950 totaled an estimated 1,940,000, a gain of 24.9 percent over 1949. The decline in the manufactured branch of the industry reflects the effect of the changeover by several large gas utility companies to distribution of straight natural or mixed gas during the year.

Residential gas customers registered an impressive gain during the year. Commercial gas customers also increased substantially. In addition to the customers reported above it is estimated that nearly six million customers now are being served with LP-gas in territories not served by gas utility companies.

Revenues and sales

Total sales of gas in 1950 increased 17.4 percent. Utility sales of natural gas were about 3,694,000,000 Mcf, a gain of 18.9 percent; manufactured gas sales dropped to 412,400,000 Mcf, a decline of 2.7 percent. Mixed gas sales were about 159,600,000 Mcf, a rise of 14.4 percent over the previous year.

Revenues from the sales of gas reached an all-time record in 1950, almost reaching the \$2 billion mark. Utility revenues for the year were \$1,958,000,000, a gain of 16.0 percent over 1949. Natural gas revenues staged a spectacular rise of 25 percent to total about \$1,363,000,000 for the year. Manufactured gas revenues were \$458,700,000, a decline of 4.3 percent under 1949, and revenues from sales of mixed gas were \$114,600,000,

a gain of 18.8 percent over the previous year. The balance in revenues is accounted for by revenues from sales of LP-gas through utility mains.

Gas appliances

Sales of gas appliances reached new high levels in 1950. They exceeded even the record heights achieved in 1947 and 1948 when the industry was filling the tremendous backlog of appliance orders accumulated during the war years. Sales of gas ranges last year totaled over 3,100,000 units, compared with 2,100,000 units in 1949 and a previous record of 2,800,000 units in 1948. Automatic gas water heater sales climbed to a total of 2,250,000 units in 1950, compared with a previous record of 1,800,000 units in 1947 and 1,350,000 in 1949.

Central heating units also reached a new high of more than 1,000,000 units, an indication of the tremendous demand that still exists for gas house heating. Gas refrigerator sales were about 50 percent ahead of a year ago, while sales of the new gas appliances such as the gas laundry and the gas incinerator advanced substantially in 1950. Gas air conditioning equipment sales also made new records in 1950.

The gas industry's expenditures for construction of new facilities and expansion of present production, transmission and distribution facilities last year reached a record level of an estimated \$1,060,000,000, attesting to the tremendous effort the industry is making to meet the constantly growing demand for gas. It is estimated that more than \$954,000,000 of this total was spent on construction and expansion of natural gas pipeline systems, with manufactured gas companies spending approximately \$90 million and mixed gas companies investing nearly \$15 million for new plant and expansion of present facilities.

American Gas Association resurveyed the gas industry's expansion program last year. Estimates indicated that about \$3,154,000,000 would be spent in the five-year period 1950-1954, with approximately \$2.75 billion of this amount being devoted to construction and expansion of natural gas facilities. While it is

believed that 1950 will be the peak year of this program, it is estimated that more than \$875 million will be spent on gas industry expansion next year if no restrictions are placed on vital materials.

The natural gas industry reached new peaks in 1950 and showed every indication that it will progress further in the year ahead. Natural gas pipeline systems added record mileage, customers, sales and revenues as the natural gas branch of the industry reached new high levels. Natural gas supplied a record-breaking total of 20 percent of the total energy consumed in the United States in 1950.

In the first nine months of 1950, Federal Power Commission approved construction of 5,750 miles of new natural gas transmission lines and had applications pending for an additional 12,400 miles. Construction of the approved lines will bring the total mileage of the nation's natural gas transmission lines to more than 265,000 miles.

Natural gas progress

Transcontinental Gas Pipe Line Corporation scheduled delivery of natural gas to New York City, Brooklyn and Newark for the end of December 1950. This 1,900 mile line, longest in the world, brings natural gas from the Gulf Coast to metropolitan New York. Its cost is about \$200 million.

In November, FPC approved the application of Northeastern Gas Transmission Co., Boston, to supply part of New England with natural gas. This company will serve markets in Massachusetts, Connecticut and New Hampshire.

Algonquin Gas Transmission Co., also of Boston, is expected to receive authorization to serve New England as soon as it has shown the FPC that it has an adequate supply of gas. Natural gas is expected to reach the New England States before the end of 1951. Only one important area in the United States will then be without natural gas, and several plans are under consideration for bringing gas to the Pacific Northwest. These plans include applications to bring gas to Oregon and Washington from the

Texas fields as well as from the Canadian sources of supply.

Natural gas reserves continue to appear ample to serve the nation for many years to come, even with the rapidly increasing production of natural gas. The Association's Committee on Natural Gas Reserves estimated at the beginning of 1950 that proved reserves of natural gas totaled 180.3 trillion cubic feet, an in-

crease of 6.5 trillion feet over proved reserves at the beginning of 1949. Natural gas production during 1949 was estimated at 5.9 trillion cubic feet, so new discoveries and extensions of estimates of known fields continue to exceed the yearly production.

Despite the tremendous growth of our natural gas transmission systems, the manufactured gas branch of the industry

continues to be of the utmost importance in many regions of the country.

Demand for gas services continues to exceed the ability of the industry to serve this demand in many areas. This is particularly true as regards house heating and its attendant peak load problems.

While some of the territories receiving or about to receive natural gas will change over to straight natural gas distribution, there are many companies that will continue to manufacture gas and will use natural gas only as one of the production materials. Other companies will mix manufactured and natural gas to be served, perhaps at higher Btu levels, but still relying heavily on the manufactured gas plants.

A.G.A. opens new hard-hitting PAR drive



Meeting of A. G. A. PAR Committee in New York in December: (Clockwise around table) E. P. Noppel, New York, N. Y.; Dean H. Mitchell, Hammond, Ind.; E. J. Tucker, Toronto; L. E. Knowlton, Providence, R. I.; Charles G. Young, Springfield, Mass.; Norman B. Bertolette, Hartford, Conn., committee chairman; Vincent T. Miles, Mineola, N. Y.; Robert W. Otto, St. Louis, Mo.; Harry K. Wrench, Minneapolis, Minn.; F. A. Lydecker, Newark, N. J.; John W. West, Jr. Also present was George F. Mitchell, vice-president, A. G. A.

FIRST LINE of defense of the American gas industry, the nationally renowned PAR Plan (Promotion, Advertising and Research), is ready for an eventful year in 1951. Gross expenditures of \$1,853,800 have been authorized to stimulate sales activities, meet the challenges of competition and further work on new and improved processes and equipment. Noted experts in their respective fields have been selected to lead the 1951 campaign.

A gross amount of \$344,300 has been authorized for sales promotion activities during the year. Nearly one-half of this amount is expected to be recovered from resale of various promotional materials. Hard-hitting campaigns are scheduled for the promotion of eight major gas services: incineration, water heating, clothes drying, domestic cooking, air conditioning, refrigeration, house heating, commercial cooking. Several additional projects will be sponsored in allied fields.

A total of \$825,000 has been authorized for national advertising which will tie-in closely with A.G.A. promotional campaigns. A preview of the Association's promotional and advertising plans appears this month on page 20.

The PAR Committee and its supporting groups believe that continued strong emphasis on promotion and advertising is required to keep the advantages of modern gas service and equipment before the public eye. However, due to the uncertain outlook in business fields for 1951, final authorization for pro-

motion and advertising expenditures will be made on a four-months-in-advance basis.

Research will also receive a large share of attention in the new year. Some 37 projects in gas production, domestic gas, industrial and commercial gas research have been scheduled at nine leading research institutions.

The sum of \$576,000 has been allotted for these activities. Seven of the projected studies are new research projects in important fields. The remainder are projects which were in progress at the beginning of the year.

Eight projects of direct interest to pipeline companies and utilities engaged in pipeline operations have been scheduled in the field of general technical research. Total expenditures of \$81,000 are planned for this work.

Industrywide interest has been generated in another project which was initiated last fall. This special field investigation of experimental automatic range ignition devices has enlisted the active cooperation of 49 gas utilities, 16 gas range manufacturers and six control manufacturers. A balance of \$10,000 from the original \$12,000 allocation remains for 1951.

Miscellaneous and administrative expenses for the PAR Plan are estimated at \$27,500, substantially the same amount as in 1949.

Leading man on the PAR team for 1951 is N. B. Bertolette, president, The Hartford Gas Co., Hartford, Conn., who will serve as Committee chairman. Mr. Bertolette has been active in the Association for many years.

(Continued on page 55)

A. G. A. Laboratories

Last year marked the twenty-fifth anniversary of A.G.A. Laboratories and the founding of the Laboratories Approval Plan for certification of gas appliances. Appropriately, the year was one which set an all-time record for services rendered. It also marked specific actions important to the continued growth and progress of the industry. (See A.G.A. MONTHLY, October 1950.)

Establishing a new peak in total services to the industry for the fourth successive year, the gross volume of all operations passed the million dollar mark. Appliance testing and inspection services, the major activities, exceeded those of 1949 by about 20 percent. A total of over 4,400 individual appliances were tested at the Laboratories and more than 1,100 inspection calls on manufacturers resulted in examinations of more than 5,000 basic models. These figures include United States and Canadian testing and inspection services.

Total Laboratories operations exceeded the previous year by approximately ten percent and were five times greater than the prewar 1936-40 average. Greatest gain was number of domestic heating appliances tested, although expansion of sales in all domestic equipment set the pattern for Laboratories operations.

Research activities, conducted under the Association's PAR Plan, resulted in the preparation and release of 12 research publications. Eight research bulletins and four reports were issued, pertaining to domestic, mixed gas, industrial and commercial research.

Ground was broken last year for the construction of (Continued on page 48)

Safety means survival

A.G.A. Accident Prevention Committee opens campaign to aid defense effort



Photo courtesy Texas Gas Transmission Corporation

By W. H. ADAMS

*Chairman, Accident Prevention
Committee, American Gas
Association*

●Following is the first of a series of articles prepared specifically for the A. G. A. MONTHLY on the subject of accident prevention. Member companies are encouraged to distribute this material among their employees or to publish it in their company publications without request. Reprints are available from American Gas Association at cost.

Accident prevention today is one of the gas industry's top problems. It is a problem that must be solved successfully before the national manpower situation becomes more acute.

Even before President Truman declared a state of national emergency there were strong indications that manpower would become a serious bottleneck for industry in 1951. Management and government officials are distinctly worried over the prospect of these shortages. Already there is support in some quarters

for legislation which would allow the government to initiate corrective measures in companies whose accident records exceed the average in their respective industries.

The time is late. If business doesn't clean its own house, then someone else will do the job!

First steps in the right direction have already been taken in the gas industry. Two past-presidents of the Association, Mr. Hendee and Mr. Cuthrell, appealed during the past two years for strenuous efforts to reduce gas company accidents.

Last September, 150 gas utility safety executives met in Washington, D. C., for the first national gas industry safety conference. One highlight of this meeting was the presentation of engraved certificates to 36 natural and manufactured gas companies which had reduced their accident frequency and severity rates by 25 percent or more during the preceding year. This is a definite move in the right direction. Where do we go from there?

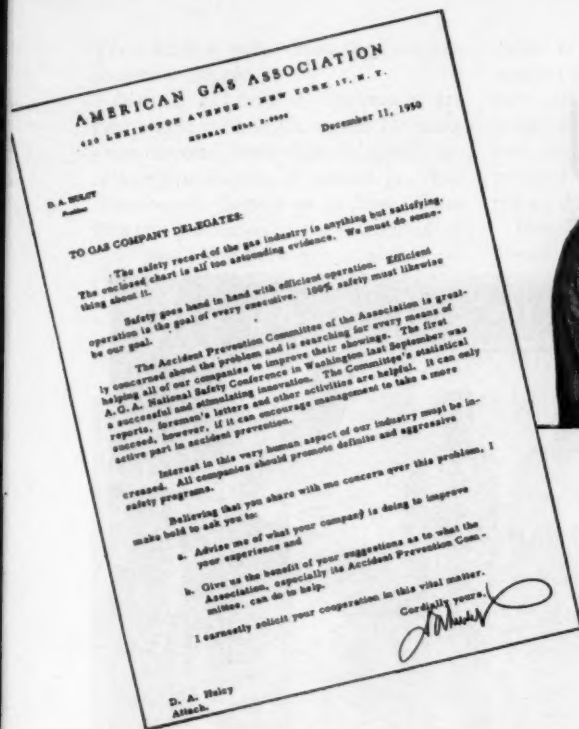
President D. A. Hulcy and the A.G.A. Accident Prevention Committee have set out to provide the answer to that question. In a letter to each member company, Mr. Hulcy has appealed for even

stronger efforts to improve the industry's showing. This committee, during a special two-day meeting in New York last month, organized a broad new attack on the basic problems.

We are now opening a hard-hitting campaign to substantially improve the gas industry's accident experience. We are opening a crusade for employee safety—a determined effort to enlist all company officials and employees under the safety banner. Let's get down to work right now and reduce the number of manhours lost from accidents—let's cut substantially the number of employees killed or incapacitated due to accidents. The job must be and can be done. It is a definite and constructive way for the gas industry to help in national defense.

The National Safety Council's records show that during the four years of World War II, accidents were a serious drain on the American economy. Look at these over-all figures for the country.

Some 380,000 dead from accidents in those four years; 1,400,000 permanently impaired; 38 million persons temporarily disabled; a 20 billion dollar economic loss from accidents and fires compared with a four-year national production



Mapping strategy of A. G. A. Accident Prevention Committee: (Left to right) George MacDonald, Public Utilities Section, National Safety Council; D. C. Stewart, Buffalo, chairman, Statistics Subcommittee; W. H. Adams, Pittsburgh, committee chairman, and F. G. Harriman, Boston, chairman, Publicity Subcommittee. Chart mentioned in letter (left) will appear in the February MONTHLY

valued at 780 billion dollars.

Now look at our own record. In 1949, this gas utility industry lost approximately 315,000 days of work due to disabling accidents.*

This represents a considerable improvement over the 1948 total, which in turn was lower than in 1947. Still, it is considerably higher than it should be.

What do accidents cost the gas industry? In 1949, there were approximately 6,000 disabling accidents in the gas utility field.* Estimated average direct cost of a disabling accident, according to a recent National Safety Council survey, is nearly \$500. The product of these two figures shows that disabling injuries alone resulted in a direct cost to the gas industry of three million dollars in 1949. But that is not the whole story.

Long experience has proved that there are enormous hidden costs behind each accident—at least four times the obvious costs. Thus, disabling injuries last year cost our industry in the vicinity of \$12 million more for these hidden costs. The total becomes \$15 million—and that still is not the whole story. Add the cost of non-disabling injuries, then the total becomes really impressive. Add the cost

of safety programs, insurance, the cost of replacing injured workers. Don't forget the heartaches and disruption of family life. The total, if it could be expressed in dollars and cents, would be enormous.

To do something about this situation—starting right now—we need the entire industry's support. Every one of us must get behind President Hulcy's appeal to make safety our goal. We must sell the idea—starting with top management—that safety is a patriotic duty. It is also darn good business! The cost of a good safety program is far less than the cost of accidents!

Factors known

Certain basic factors are known that can help this campaign. We know, for example, that approximately only ten percent of all accidents are caused by unsafe conditions. Some 90 percent are caused by unsafe practices. Safety experts on a number of A.G.A. accident prevention subcommittees are now deep in their job of preparing safe practice manuals for individual company use. Other subcommittees are working on awards, and tests, films and foreman's reminders, posters, publicity, etc. Specific recommendations are being worked out in the following fields: automotive, manufactured and national gas production, distribution and utilization. A special program

that will spur the industry's thinking is being planned for the 1951 Gas Industry Safety Conference next September in Kansas City, Missouri.

Meantime, there is a lot that you can do in your own company. You can check to see that accidents are prevented at the drafting table and by good job planning and sound engineering.

Take a tip from us. Press for the initiation of a Safety Observation Plan, if your company does not already have one. This plan should have a twofold objective: First, it should detect and eliminate unsafe practices before accidents occur. Second, it should keep supervisors on constant guard against unsafe practices, and eliminating them immediately.

Such a Safety Observation Plan is being practiced successfully in the Pittsburgh Group Companies of The Columbia Gas System, Inc. The plan places the detection of unsafe practices on an organized basis.

Under this plan the supervisor takes time to stand aside once a week for the single purpose of watching for unsafe working practices among his employees. He looks for nothing else during his observation period. He then records the results of his observation on a special report form. This report is turned in to his immediate superior and through regular channels reaches the district manager.

* Figure taken from "Accident Experience of the Gas Utility Industry, 1949" (A. G. A. Bureau of Statistics), expanded to represent the whole gas utility industry. Appreciation is also expressed to National Safety Council and National Association of Manufacturers for their assistance.

For all practical purposes, it is recommended that each supervisor make at least one scheduled observation a week. The supervisor should plan his observations so that all his employees are more or less equally covered over a suitable period of time.

Local management must back up this plan by supporting its supervisors and encouraging them to do a thorough job.

Each month, reports of the individual supervisors should be summarized by the local safety director. This will provide management with a quick picture of safety recommendations in the field.

Depending on local conditions and the size of the company, district safety committees may be organized to investigate unsafe practices. Information from meetings of these committees should be carried back by supervisors to their own group safety meetings. In this way, benefits of the plan will reach each employee. Finally the plan should place continuing emphasis on the need for making every supervisor and employee "unsafe practice conscious."

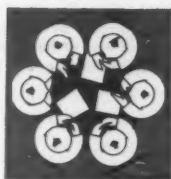
Several facts should be kept in mind. This plan is not intended to serve as a check on the efficiency of individual employees. Its sole aim is to prevent tomorrow's accidents by spotting and eliminating today's unsafe practices.

Whatever your local situation, whether your company's record is impressive or below average, you should press immediately for a full inventory of accident prevention facilities in your company. If you don't have a safety director, get one. Appoint one if necessary. See that he has the full support of top management. See that he has the assistance of the unions and the understanding of his fellow workers.

Next, press for a full appraisal of the effects that an emergency economy will exert on your company. Then plan immediately to stop the drain caused by accidents.

Remember, accident prevention is an integral part of operations. One more thing, send your problems and your suggestions to the Accident Prevention Committee, American Gas Association, 420 Lexington Ave., New York 17.

Coming in the February A. G. A. MONTHLY, the second article in this series—specific plans for a coordinated industrywide safety campaign, facts and figures on specific accidents, suggestions for safety.



Industrial relations round-table

Prepared by
A. G. A. Personnel Committee

● **In case of enemy attack**—There can be no mass evacuation of our great cities in case of enemy attack, James J. Wadsworth, acting director, National Security Resources Board's Civil Defense Office, told American Welfare Association recently.

"There has developed among certain groups in this country what we call a 'take-to-the-hill' mentality," Mr. Wadsworth said. "By that I mean there is a tendency, on the part of some people, to visualize any attack here by an enemy as the signal for a sort of group vacation on the part of thousands of city dwellers."

He added that "no picture could ignore reality more tragically than this," and said, "it is time to get tough with ourselves over this question of what may happen if we are attacked."

He explained that there could be no mass stampede from critical target areas, for the simple reason that such action would not be permitted by the state and local authorities responsible for the safety and welfare of our national security. There could be no mass exodus, Mr. Wadsworth said, because there can be no surrender of our production centers.

"If and when the chips go down," he said, "every strategic target area in America will be manned and fought with every bit of human vigor and every scrap of material resource we have. Every community must be defended to the utmost."

"For the first time since the Indian wars every soldier and every citizen—man, woman and child—will be equal in danger and personal responsibility," Mr. Wadsworth told the association. "There will be no retreat from the production lines. There will be no voluntary surrender of a single machine, or a single home, that might help our armed forces to wage war."

Mr. Wadsworth said he was confident that when the American people realize that fact and understand the prime necessity of defending their cities and homes instead of taking flight, that "there will be a great resurgence of national, personal, individual courage."

He strongly urged that all citizens organize their local civil defense at the family and neighborhood and community level so that it may be backed by the full resources of the states and the nation.

● **Check list for employees entering military service**—Considerable publicity has been given to the generous policies adopted by many companies (large and small) toward employees called into the armed forces. Little has been said or done about another phase of the same subject: *What should the individual himself do to protect his own interests while he is in military*

service? What steps should he take before he reports to make sure that his dependents are well cared for while he is gone, and that his rights will be intact when he returns?

These are, of course, or should be, personal matters to be handled by the individual. But many employers are finding themselves drawn into the picture by anguished appeals from wives or other relatives to straighten out some mess caused by the failure of the serviceman to arrange his affairs properly before his departure.

A few employers are doing something to make those employees eligible for military duty aware of the details they should consider if they receive their call into the armed forces.

Holley Carburetor Company has an 18-point check list which it distributes to its workers. Because this procedure is so timely, we are including the check list in this column.

Details to be considered if you are called into military service:

(1) **Power of attorney**—Execute a Power of Attorney if you want someone to act for you.

(2) **Safety deposit box**—Rent one and place your important documents in it.

(3) **Will**—Prepare or revise. Be sure it is properly prepared.

(4) **Debts**—Arrange for payment of outstanding bills and/or loans. The Soldiers' and Sailors' Civil Relief Act protects you against entry of judgments while in service.

(5) **Life insurance**—Check your policies to be sure the beneficiaries named are correct. Is beneficiary to be paid in cash or in monthly installments in case of your death? Arrange for premium payments.

(6) **Leases**—Arrange to cancel or sublet leases on residence. If you give proper notice, the Soldiers' and Sailors' Civil Relief Act protects you from further liability under leases after your entry into service.


(7) **Fire insurance and personal property insurance**—Check your policies for expiration date, proper coverage and address. Get refund if you cancel your policy.

(8) **Automobile title and insurance**—Be sure they are available and in the name of the proper person. If the amount of driving will be reduced, you may be entitled to a reduced premium. If you dispose of your auto, you may obtain refund if you cancel the insurance.

(9) **Your address**—Leave with some friend, besides your wife or parents, complete data as to yourself, where you are, how you may be reached, and keep the person informed of changes while you are away. It may be necessary for him to reach you in an emergency.

(10) **List of assets**—Prepare a complete list of everything you own and where it may be found. Leave copies with your wife, parents or other relative, attached to your Will.

(11) **Last wishes**—In case of your injury
(Continued on page 50)



Applicant taking hand-tool dexterity test, demonstrated by Catherine Lund and Howard Bray of the personnel department, Washington Gas Light Co.

Scientific hiring of appliance servicemen

By A. R. LANEY, JR.

*Personnel Psychologist
Washington Gas Light Co.
Washington, D. C.*

●The following article was written especially for the A. G. A. MONTHLY. Reprints for individual company use are available from the editor at cost.

Many years ago gas companies relied on horse-drawn wagons for hauling appliances and on the interview method for selecting new appliance mechanics. Although today modern trucks are used for transportation, few companies have progressed much beyond the interview in their hiring methods.

Yet research has demonstrated that the traditional interview is undependable. It is subject to considerable personal bias, even on the part of those who regard themselves as "keen judges of human nature." Because of antique hiring procedures, most service departments have their full quota of employees who would be happier and more productive in some other line of work.

Errors in selection are costly not only to the individual employee. To the company they mean higher appliance installation and service costs, customer dissatisfaction with quality of work, increased training and supervisory expense.

*A "weighted" application form is one which can be scored, with plus or minus numerical values being assigned to those of the applicant's responses which research has shown to be related to success or failure on the job.

Of course, in the old days if a new man did not "pan out on the job" he could be "fired." Today there are many reasons why it is difficult for a company to release an employee for incompetency alone, or even to deny promotion to a senior man whose appliance service work is actually below average.

In recognition of these factors, and in response to many requests from member companies, two American Gas Association committees pooled their resources to sponsor research on improved methods for hiring gas appliance service workers. The joint research effort of the Personnel and the Gas Appliance Installation & Service Manuals committees centered on two of the newer hiring methods—the weighted application blank* and standardized aptitude tests.

●"We have been using the Wonderlic Personnel Test and the Bennett Test of Mechanical Comprehension in selecting employees for some five or six years, and find them to be an excellent selection device."—E. F. Hubbard, industrial relations director, The Philadelphia Gas Works Company.

The following companies generously supplied application forms (duplicates of those completed by some 437 service employees at time of hiring) and supervisory ratings: Atlanta Gas Light Co., The Consumers' Gas Co. of Toronto, The East Ohio Gas Co., Equitable Gas Co., Laclede Gas Co., Lone Star Gas Co.

(Dallas Division), Metropolitan Utilities District (Omaha), Michigan Consolidated Gas Co. (Detroit), Milwaukee Gas Light Co., Minneapolis Gas Co., New Orleans Public Service Inc., Northern Indiana Public Service Co., Oklahoma Natural Gas Co., Portland (Ore.) Gas & Coke Co., The Philadelphia Gas Works Co., Public Service Co. of Colorado, Public Service Electric & Gas Co. (Newark), Washington (D. C.) Gas Light Co., Worcester Gas Light Co.

Information supplied by these companies was used to determine whether a weighted application blank would be useful in improving the selection of men for appliance service work. Each item appearing on most of the application forms was studied to determine its relationship to ratings of success on the job.

Several items—notably age at time of hiring, years of education and previous experience in mechanical work—did tend to differentiate between the most highly rated men and the others. However, when analyzed mathematically, these relationships proved of insufficient strength to be of much practical use.

Other items customarily found on application forms—such as height, weight, marital status, number of dependents, length of residence in the locality, club activities, etc.—were found unrelated either to ratings of "skill in customer relations" or of "mechanical proficiency on the job." Therefore, it was decided that developing a weighted application blank as an aid in evaluating applicants for this particular job was *not* justified.

Far more impressive results were obtained from the aptitude test study. Through the cooperation of The Brooklyn Union Gas Company and Washington Gas Light Company, one hundred and thirty-five service department helpers, gas fitters and appliance servicemen were made available for extensive testing. These men were given nine standardized tests chosen by Dr. M. S. Viteles, Philadelphia Electric Company.

The tests were of two general kinds—written or "paper and pencil" tests and mechanical "performance" tests, such as the one shown in the accompanying picture.

In addition to testing these Brooklyn and Washington employees, it was necessary to ascertain the best measure of proficiency on the job in each of the two companies. In Brooklyn this proved to be supervisory ratings; in Washington, grades obtained in the company's training school for service personnel.

It was then possible to divide employees at both companies into three groups—the most proficient or *best* third, the *middle* third, and the least proficient or *poorest* third. Average test scores for

each third were computed. It was found that in both companies the *best* men averaged higher scores on each of the nine tests. With minor exceptions, the *poorest* made the lowest scores.

The next task was to determine which test or combination of tests predicted job proficiency most accurately. The three most valid tests are those listed on the charts on page 16. (Many other analyses were made and full details of the entire test study are presented in a technical report obtainable upon request from Kurwin R. Boyes, secretary, American Gas Association.)

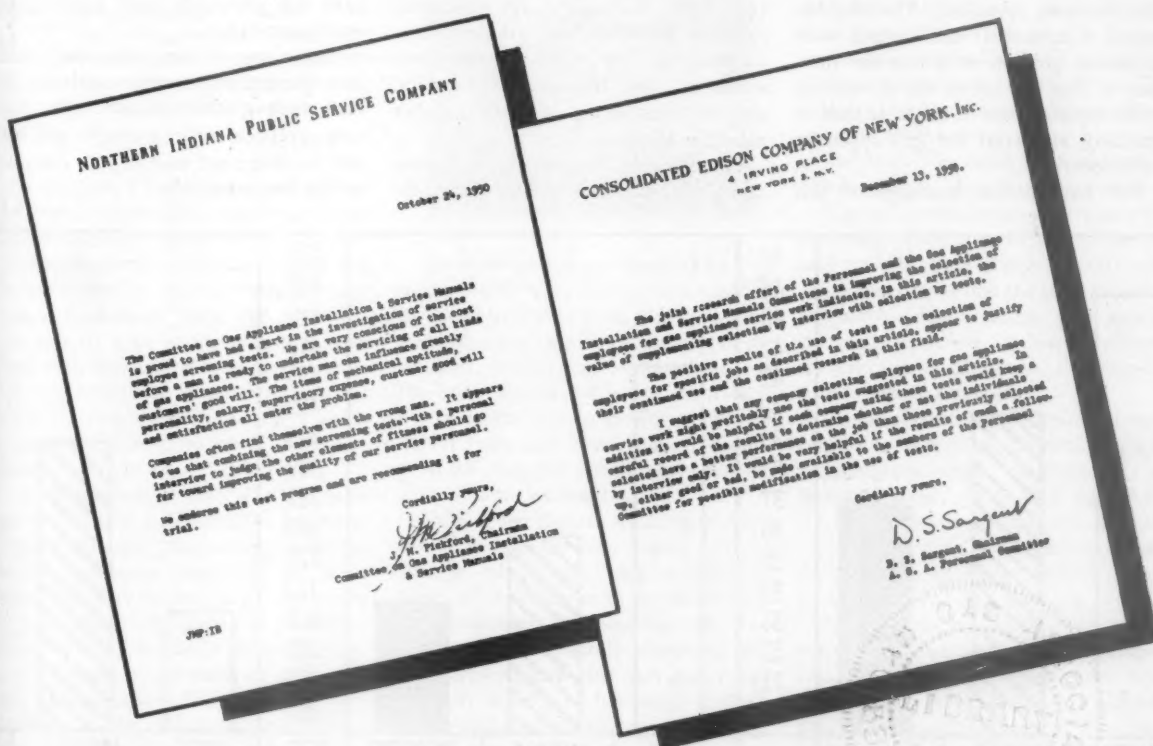
Both the Personnel Committee and the Committee on Gas Appliance Installation & Service Manuals believe that the two written tests, with the optional addition of the hand-tool performance test, merit wide use by member companies interested in better selection methods for gas appliance service employees. In fact, these tests provide vital information about the applicant's general ability and his aptitudes for mechanical work which is not reliably obtainable from the interview or from any other employment method.

Note, however, that the recommended tests are *not* intended to measure employee motivation or the various personality factors which are also important in appliance service work. An applicant can possess a lot of ability and still develop into an unsatisfactory employee if he is lazy or if his appearance and manner are not pleasing to customers. Therefore, the tests should *supplement* rather than replace your present employment methods. The interview, for example, is still probably the most satisfactory way of gauging the applicant's general attitude and the impression he is likely to create on others.

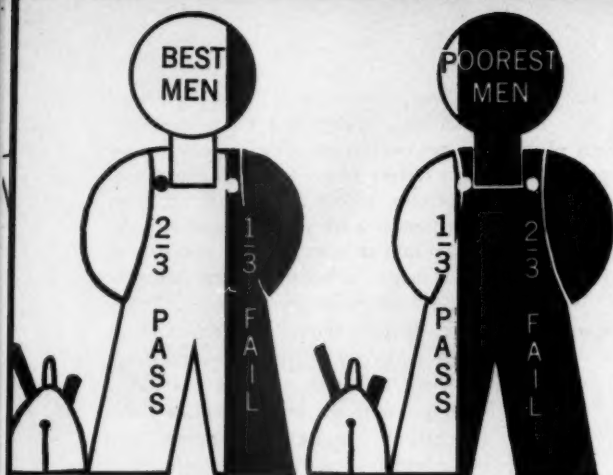
Special arrangements have been made for member companies to purchase the two written tests and, if they so desire, the hand-tool dexterity test, from The Psychological Corporation, 522 Fifth Avenue, New York 18, N. Y. Send your purchase order direct to them, *not* to A. G. A.

The Wonderlic Personnel Test (be sure to specify Form D, E or F) costs \$6.25 for a package of 100.

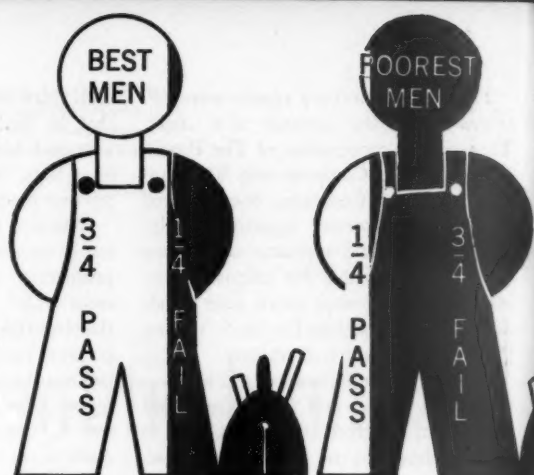
The Bennett Mechanical Comprehen-



Joint research by A. G. A. Personnel Committee and A. G. A. Committee on Gas Appliance Installation & Service Manuals indicates that selection by both interview and tests will help to improve quality of service personnel



EFFECT OF "PASSING SCORE" OF 59.
(Combined score on Personnel and Mechanical Comprehension tests).



EFFECT OF "PASSING SCORE" OF 23
(Using formula: Personnel test score plus Mech. Compr. test score minus 1/10 of seconds required to do hand-tool dexterity test).

Score represents that which "fails" half of the men.

sion Test (Form AA) is comprised of a re-usable test booklet and a separate answer sheet. A package of 24 booklets is priced at \$3.50 and 50 answer sheets cost \$1.60.

The Hand-Tool Dexterity Test sells for \$18.00 complete.

In addition to the individual test manuals normally supplied, The Psychological Corporation will include with the initial order from a member company a copy of an A. G. A. manual which explains how to use these tests in screening applicants for gas appliance service work.

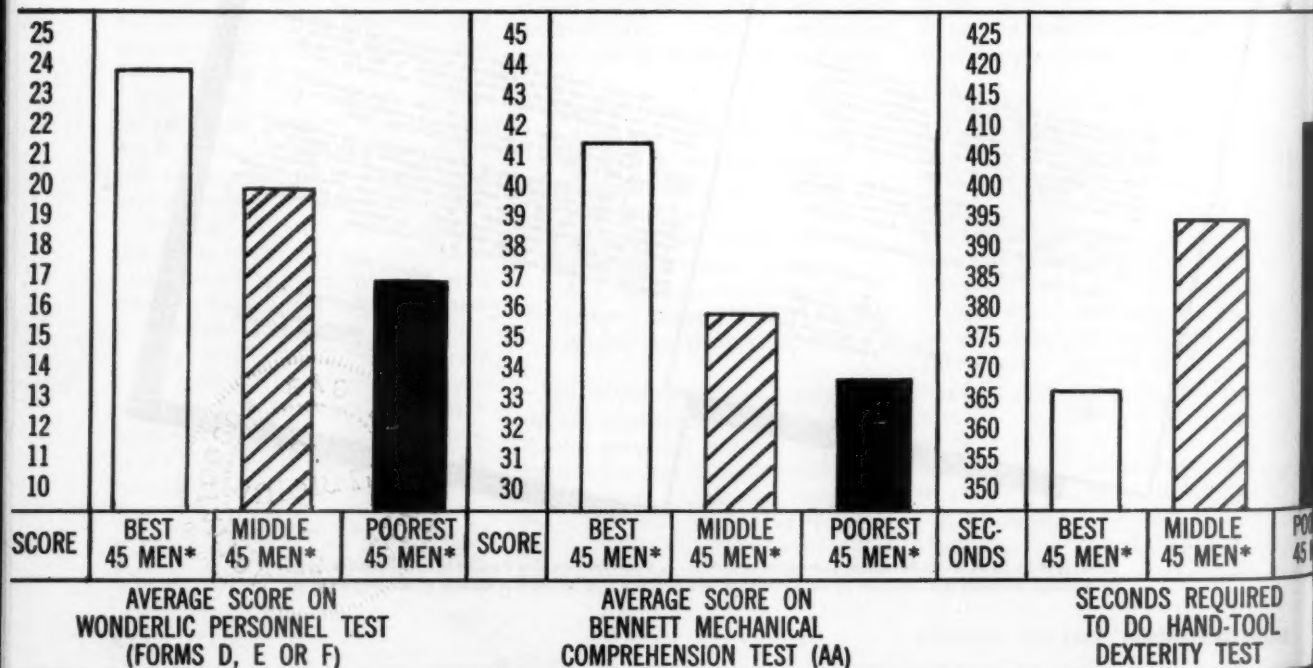
The nine section headings of this

A. G. A. manual are as follows: General Nature of the Tests, Conditions for Test Administration, Test Instructions, Scoring the Tests, Reliability, Evidence as to Validity of these Tests in the Selection of Gas Appliance Service Employees, Description of the Two Groups of Employees Upon Whom Tests Were Validated (i.e., statistics relating to age, education, job experience and test performance), Establishing Test Norms (performance standards) for Individual Companies, and the Relationship of Tests to Other Selection Methods.

For example, the section on Conditions for Test Administration stresses the

importance of avoiding physical distractions, of giving standard instructions to each applicant, and of precise timing. The section on Establishing Test Norms for Individual Companies presents two practical methods of inaugurating a testing program. It is designed to be of particular assistance to companies which have not previously used standardized employment tests.

Proper use of these tests, along with your present employment methods, offers much greater assurance that each new appliance service employee you hire will become a real asset to your company in this important job.



* Brooklyn and Washington groups combined.

Water heater performance

By ENID SATER ROSS, DOROTHY S. GREENE, MARILYN G. FISHER

Bureau of Human Nutrition and Home Economics, Agricultural Research Center, U. S. Department of Agriculture

● Although begun as an incidental to the study of domestic automatic washing equipment, the following report presents information of vital interest to all gas companies. The flexibility and recovery capacity of the automatic gas water heater is shown in its true perspective compared to the limitations of competitive equipment. Also of interest are the observations on the use of water as low as 120° for washing selected fabrics. The study cannot be used to furnish authentic figures on comparative energy consumption since unequal water quantities were drawn.

Data reported in this paper on six automatic storage-type water heaters were accumulated in connection with a study of domestic washing machines under way in the Bureau of Human Nutrition and Home Economics. Some data are from the records kept as these heaters were used with the washers under test. Others are the results of direct investigations made to answer certain questions which grew out of laboratory use of the equipment.

A description of the six heaters is given in Table 1. One heater was operated at different temperatures with the heating elements connected in three ways. All were located in the same area of one laboratory. Each was connected from ten to 14 months in the line supplying hot water to 19 washers—automatic and non-automatic. Water meters were installed in the cold water line to each storage tank, and gas and electric meters were connected with the heaters.

Since these data were collected inci-

dental to a laundry study the maximum water temperatures used were not the same. The thermostats were set to give the temperatures needed in the major study. Three were at the highest at which they could be set, while the other three heaters were operated at a desired higher temperature. Ambient temperatures were not controlled but all periods covered approximately the same range.



To arrive at energy consumption figures, records were kept of the quantity of hot water drawn from each tank, with corresponding gas and electric meter readings. No attempt was made to use the same amount of water from each heater. In the laundry studies, water was drawn from one heater until the temperature dropped below that desired. Then another was used.

Table 2 summarizes the average number of gallons of water heated and the average cubic feet of gas or kilowatt-hours of electricity used per month under conditions of laboratory use. The average for the monthly amount of water heated indicates that each heater supplied its capacity of hot water approximately every two days except for two that on the average heated twice their capacity every three days.

For computing standby loss, meter

readings were made for periods of not less than 48 hours. The initial reading was taken when the tank was filled with hot water and the final reading, before any water was drawn. The standby loss shown in Table 2 is average of 12 periods or more in cubic feet of gas or kilowatt-hours of electricity per 24-hour day.

Since the total quantity of hot water available is of importance in many household situations, tests were conducted to obtain this information in regard to the heaters described in Table 1. Special records were made when no hot water was being used in connection with washers. Ten to 12 feet of iron pipe connected each heater to the faucet where temperatures were taken by means of a thermocouple and recorded every six seconds by a Brown Electronik Potentiometer. The storage tanks contained the maximum quantity of hot water at the beginning of the tests. The tanks were emptied at approximately 4.5 gallons per minute.

Figure 1 shows the maximum quantity and temperature of water that the heaters will provide. As is always the case, cold water was drawn into the tank as fast as the hot was drawn out and some mixing occurred. Therefore, no heater delivered its full capacity of water at the temperature for which it was set.

On a percentage-of-nominal-capacity basis, the individual heaters produced different maximum quantities of hot water. Heaters A, B, C, D, E, and F delivered hot water (within 10° F of the thermostat setting) in quantities respectively 50, 67, 80, 89, 94, and 90 percent of their nominal capacities.

For information on quantity of hot water available under different operating conditions, further experiments were conducted to determine water temperature recovery in the heaters. It was found that after completely filling with approximately 70-degree water, heaters A and B recovered their maximum quantity

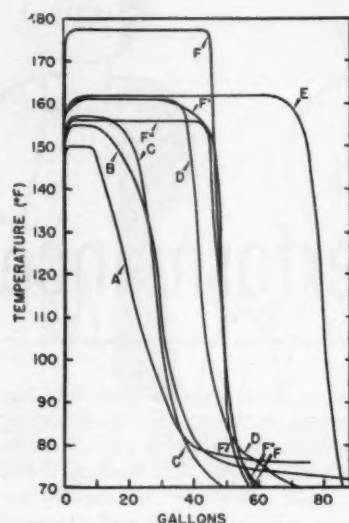


Figure 1. Maximum quantity and temperature of water delivered at one drawing by the automatic gas and electric water heaters noted in Table 1

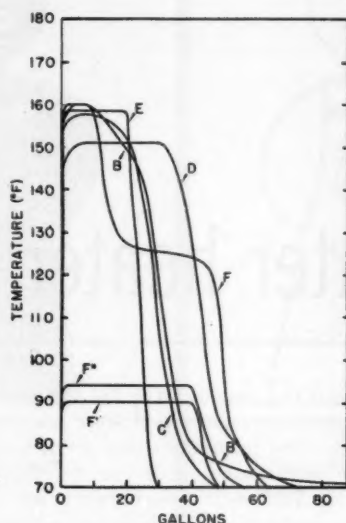


Figure 2. Quantity and temperature of water delivered two hours after an approximately 70° F water fill of seven of the heaters noted in Table 1

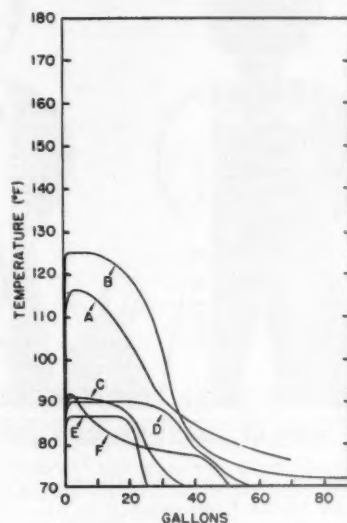


Figure 3. Quantity and temperature of water delivered one-half hour after an approximately 70° F fill of six of the water heaters in Table 1

TABLE 1. DESCRIPTION OF HEATERS INCLUDED IN STUDY

Heater	Design	Storage tank material	Nominal tank capacity in gallons	Burner or unit rating	Thermostat setting
A (Gas)	circumferential flue	copper-bearing steel	30	30,000 Btu/hr	145° F
B (Gas)	circumferential flue	Monel	30	35,000 Btu/hr	155° F
C (Gas)	central flue	galvanized steel with rod to prevent tank corrosion	30	25,000 Btu/hr	150° F
D (Gas)	central flue	porcelain enameled steel	45	30,000 Btu/hr	160° F
E* (electric)	2 immersion type heating elements	copper-bearing steel with rod to prevent tank corrosion	80	top—2500 watts bottom—1500 watts	top—160° F bottom—160° F
F† (electric)	2 circumferential heating elements	galvanized steel with rod to prevent tank corrosion	50	top—1500 watts bottom—2500 watts	top—190° F bottom—"high"
F'† (electric)	2 circumferential heating elements	galvanized steel with rod to prevent tank corrosion	50	bottom—2500 watts	"medium"
F''† (electric)	2 circumferential heating elements	galvanized steel with rod to prevent tank corrosion	50	top—1500 watts bottom—2500 watts	top—160° F bottom—"medium"

* Thermostats interlocked.

† F, F', F'' are same heater with top and bottom thermostats interlocked, single unit operation and independent thermostat operation, respectively.

of hot water in a one-hour period, heater C in two hours, D in three hours, while E and F required ten hours, and seven to eight hours, respectively. The time required by heater F varied with the different connections of the two heating elements.

After the tanks were filled with 70° F water, the heaters were allowed to operate with no water drawn until the end of the specified periods two hours and one-half hour, respectively. The quantity and temperature of the water delivered at the

end of these periods are shown in Figures 2 and 3.

Heaters used with automatic home washers

Satisfactory use of an automatic household washer can well depend on the hot water supply. Tests were therefore conducted on five of the heaters in conjunction with four different automatic washers in common use at the present time. Determinations were made of the maximum number of six-pound loads

of soiled clothes that could be washed successively from one heater until the water temperature at the end of the cycle dropped below 120° F, measured at the water inlet to the washer. Water at 120° F (or lower) could be used for washing special fabrics but is not recommended for the typical family wash. At the time these tests were conducted, no hot water was drawn for any other purpose.

The automatic washers (indicated as W, X, Y, and Z in Table 3) were chosen because their hot water requirements were representative of washers on the

TABLE 2. SUMMARY OF HEATER OPERATION

Heater	Nominal capacity	Thermostat setting	Average number of gallons heated per month	Average number of times tank completely refilled in month	Average consumption of gas or electric energy per month	Standby loss per day
A	30	145° F	421	14	968 cu ft	23.71 cu ft
B	30	155° F	655	21	1,170 cu ft	20.09 cu ft
C	30	150° F	736	24	1,202 cu ft	19.43 cu ft
D	45	160° F	791	17	1,593 cu ft	27.59 cu ft
E	80	top 160° F bottom 160° F	1,054	13	294.9 kwhr	2.707 kwhr
F	50	top 190° F bottom "high"	710	14	246.5 kwhr	2.249 kwhr

TABLE 3. HOT WATER DELIVERY BY HEATERS* FOR SUCCESSIVE LOADS IN FOUR TYPICAL AUTOMATIC WASHERS

Heater	Automatic washer	Total amount hot water drawn (Gallons)	Number loads	Average amount hot water per cycle (Gallons)	Temperature of water at end of last cycle listed ° F	Total time of test		Average time per cycle
						Hours	Minutes	Minutes
B	W	61.9	4†	15.5	172	2	32	38
	X	248.4	10†	24.8	135	5	56	36
	Y	62.6	2	31.3	113	1	14	37
	Z	75.0	2	37.5	113	1	18	39
C	W	100.7	7†	14.4	138	4	35	39
	X	28.2	1	28.8	118	0	38	38
	Y	29.6	1	29.6	111	0	36	36
	Z	37.2	1	37.2	100	0	35	35
D	W	103.3	7†	14.8	139	4	38	40
	X	73.2	3	26.6	99	2	06	42
	Y	61.8	2	30.9	104	1	12	36
	Z	77.7	2	38.8	104	1	25	42
E	W	146.9	10	14.7	109	6	19	38
	X	97.2	4	24.3	108	2	23	36
	Y	89.9	3	30.0	100	1	52	37
	Z	77.4	2	38.7	99	1	09	34
F	W	58.0	4	14.5	103	2	28	37
	X	72.3	3	24.1	83	1	45	35
	Y	60.4	2	30.2	86	1	10	35
	Z	74.8	2	37.4	76	1	00	30

* Started with tank containing maximum amount of hot water.

† Tests discontinued since there was no indication of water temperature dropping below 120° F.

market—approximately 15, 25, 30, and 38 gallons, respectively, per load of clothes. One was a cylinder-type machine, the others agitator. Wash-water temperatures on all washers were set for "hot." In other words, no cold water was used in the wash part of the cycle. The actual per-load-use in washers W, X, and Y depended on the temperature of the water coming from the heater since the rinse water was mixed automatically to give approximately 100° F. In washer Z, the rinse water was at tank temperature.

As shown in Table 3, the performance

of the heater greatly affected the number of loads that could be done in different household washers. Variations also occurred in the hot water requirement per load in the same machine due to the change in temperature of the water available.

If no other simultaneous use of hot water were made, apparently heaters B, C, and D would furnish washer W with sufficient "hot" water to wash indefinitely. Heater E supplied water above 120° F for ten loads in washer W but after the tenth cycle, the water had

dropped below 120° F. When connected with heater F, washer W could be used for washing only four loads before the temperature of the water dropped considerably below 120° F. Heater B supplied washer X for ten consecutive loads with the water remaining at 135° F, or above, indicating an ample supply of adequately hot water for that washer. Heaters C, D, E, and F delivered "hot" water for from one to four loads washed consecutively in washer X. No heater would deliver sufficient "hot" water to washers Y and Z for more than two successive loads except for heater E which supplied washer Y with water for three cycles.

The wide variation in the performance of the different heaters used in this study indicates that comparative data on all types of constructions should be available to the household buyer in order that the heater selected shall provide for the hot water needs of the individual family.

Comments by C. George Segeler, Utilization Engineer, A. G. A.

The curves shown in Figures 1, 2 and 3 can be considered in relation to one another in an interesting manner since they represent the water delivery capacity of various water heaters under three different recovery time periods. They indicate practical capacities, not the theoretical ones obtained by calculating recovery rates from Btu inputs and gallons of stored water. They recognize the effect of mixing of cold inlet water with some of the heated water.

For each usage of hot water, a temperature may be selected below which the water would merely be regarded as warm—and therefore not usable as "hot" water.

The curves show that very different volumes will be delivered by the different heaters by the time the water temperature at the faucet drops successively from the thermostat setting to 110°. This level appears to be about the lowest associated with the term "hot" water and then only as applied to baths. To be sure, hot water even cooler than 110° has uses as in soaking clothes, bathing the baby and for other household needs.

Nevertheless, if 110° is chosen as the cut-off point—and many will regard that as too low—the test curves reveal some striking information. Figure 1 deals with water heaters as (Continued on page 56)

a PAR activity

The gas industry will not be caught with its promotional plans down in 1951. Obviously, production of major appliances will be lower than last year. But on the other hand higher taxes, less favorable financing terms and higher prices will make it increasingly difficult to sell even a limited supply of merchandise.

Competition already has indicated that it will not be caught napping. For instance, two electrical manufacturers plan to sell a smaller anticipated volume of merchandise in 1951 but will spend as much on promotion and advertising as they did in 1950, possibly more.

Consequently, A.G.A. committees are making big plans for the future—flexible plans that may be interrupted or changed to meet new conditions. A 12-month promotional calendar has been designed to help the industry reverse the unfavorable trend that has been developing in the ratio of gas to electric sales. Strong emphasis will be placed on the advantages of modern gas equipment.

The following promotions are scheduled for 1951:

January—gas incinerators: This long-neglected appliance has a real future. Some communities are giving up their garbage collecting services. Others are charging a fee that would soon pay for a new gas incinerator. The gas incinerator will dispose of everything except bottles and tin cans. It is clean, convenient, requires little or no service, adds off-peak loads, helps protect present load and can be a profitable merchandising operation for you and your dealers. An early start in January will assure continued success throughout the year.

February & March—gas clothes dryers and water heaters: Water heaters have long furnished a valuable part of our gas load. The ratio between gas and electric has steadily decreased to 2.3 gas to one electric. Even in sections of the country where gas water heaters are used nearly 100 percent, a trend of indecision is apparent which may indicate trouble from competition. It is imperative that water heating activity be started early and on the basis of an alerted sales organization. This *Early Bird* activity will pay dividends in later months.

Gas clothes dryers deserve immediate attention too. The gas clothes dryer has three inherent advantages over its electric counterpart. Gas dryers are cheaper to

install, cheaper to operate, and faster in operation. Nearly a dozen manufacturers of gas dryers are looking to see whether you will support them generously enough to make their interests in gas dryers pay off. This year may well be the year of decision. The clothes dryer campaign in February and March gives you an opportunity to get things started early and to continue your efforts from there on out.

April, May and June—Spring Festival: This drive will feature the Spring Style Show of automatic gas ranges and also will see the start of an air conditioning promotion. The 1950 gas range Style Show was so successful and has so many unexplored possibilities that it should be most productive this year. It has glamor, it has appeal. It gives an opportunity to exploit our newest models and really tell the story of automatic gas cookery.

The Air Conditioning Campaign start-

Promotional '51 stresser

ing in April will be far enough ahead of warm weather to give a good head start. Air conditioning is catching on. Commercial users as well as home owners attest to its benefits. If you haven't already started to sell them, 1951 is the time to make your start.

June, July and August—gas refrigeration and house heating: When you see the new gas refrigerators early in 1951 you will hardly be able to wait to start your promotion. Present plans call for a sales contest. The A. G. A. summer activity will serve as a fitting climax to the first five months of aggressive promotion. The gas refrigerator plays an important part in building your net. It's glamorous, and it needs your aggressive support.

The gas house heating campaign is offered for those companies in a position to accept additional house heating load. But any company can use the summer

months to good advantage in replacing worn out or inadequate equipment which does not build load but does enhance customer respect for automatic gas house heating.

September, October and November—Old Stove Round Up and Commercial Cooking Campaign: The Round Up has become an annual event. It bears down heaviest where we are most vulnerable—the large number of old worn-out ranges that must be replaced if customers are to think of us in terms of modern gas cooking. The Old Stove Round Up appeals to salesmen. It appeals to customers, and offers a new way to tell an old story. Its results are always astonishingly good.

The calendar of A. G. A. promotional activities will be issued in quarter installments, listing the campaigns as they are scheduled and the supporting national advertising.

Calendar for flexibility

Plans for the 1951 national advertising program were completed at a two-day session of the A. G. A. Advertising Committees in Washington, D. C., in November. The program generally will follow the same pattern as previously, particularly in respect to supporting the appliance merchandising campaigns approved by the General Promotional Planning Committee. Specifically, national consumer advertising will concentrate its major pressure on the following campaigns:

Gas water heaters and Laundry Dryers—February, March, April and September insertions, with gas laundry dryers as secondary theme. Special October advertisement featuring dryer, with water heating as secondary theme.

Gas ranges—Spring Style Show, April, May and June. Old Stove Round Up, September, October and November.

Gas refrigerators—May, June and July.

In addition, a small schedule of advertising will appear in architect and builder magazines. A special page of advertising has been approved for the March issue of *McCall's* in support of that magazine's "My Kitchen" contest. Also, gas range and gas cooking advertising will appear in months not included in the Spring Style Show and the Old Stove Round Up.

Range advertisements for February and March will feature the headlines "So Automatic You Can Touch and Go." In general appearance they will be similar to those which appeared during the latter part of 1950.

Starting with March insertions, however, a new testimonial type of range advertising, "Naturally—I Prefer a Gas Range," will be employed. This was chosen as offering the best vehicle with which to emphasize the strongest selling points, notably automatic operation, cleanliness, beauty, modernity, etc.

The popularity of gas cooking advertising which appeared during 1950 has been an important factor in increasing the number of participating range manufacturers from seven to 11 for 1951. This is the largest number of participants to join this cooperative venture since it was launched four years ago.

A. G. A. advertisements devoted to automatic gas water heating in association with the gas laundry dryer will be of poster type and represent a fresh approach to the subject. Refrigerator advertising will be developed as soon as Servel introduces its new model and merchandising plans for 1951. The campaign designed to reach builders and architects has yet to be worked out in detail. All domestic gas advertising will feature the slogan "Gas Has Got It" with mention of seven residential uses.

The 1951 magazines selected to carry the consumer magazine program are: *Saturday Evening Post*, *Better Homes & Gardens*, *American Home*, *House Beautiful*, *House & Garden*, *Good Housekeeping*, *Ladies' Home Journal*, *McCall's*, *Woman's Home Companion*, *Women's Day*, *Family Circle*, and *Today's Woman*.

Combined circulation of these magazines is more than 34 million copies. From both an advertising and editorial point of view, including men and women readers, they represent perhaps the most valuable media available today.

Advertising directed to the industrial
(Continued on page 51)

1951 JULY 1951						
SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				
*	*	*	*	*	*	*

1951 AUGUST 1951						
SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				
*	*	*	*	*	*	*

1951 SEPTEMBER 1951						
SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				
*	*	*	*	*	*	*

1951 OCTOBER 1951						
SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				
*	*	*	*	*	*	*

1951 NOVEMBER 1951						
SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				
*	*	*	*	*	*	*

1951 DECEMBER 1951						
SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				
*	*	*	*	*	*	*

Versatile home service

Candid camera catches on-the-job scenes of many approaches employed by 1,400 workers



Home Call

Nearly 400,000 home calls were made in 1950. Home service girl in picture at left explains operation of new gas range



Youth Group

Teen-age contacts feature cooking classes for schools, Girl Scouts, Camp-fire Girls and Girl Guides in Canada. Special school equipment replacement programs are conducted by most gas companies throughout the country



School Class



The Laundry Story

Home service finds both the public and gas company employees deeply interested in the time-saving features of the automatic gas clothes dryer

job straight major activities—dramatic examples of the
 1,400 American and Canadian home service women to tell the story of gas



Floor Display

Displays such as this one on the local gas company's sales floor are an important part of home service work



Television

▲ Television offers broad new outlet for home service. (Above) Compact kitchen unit and demonstration table enable camera close-ups



Theatre Demonstration

▲ Home service packs them in! Drama and showmanship are stepped up for large audiences such as this theatre cooking school. Note helpful innovations—portable gas kitchen and mirror over table

Salesmen can "tell and sell" better when fortified with information on how women use their equipment. In the picture at right, "Knights of the Blue Flame" are learning mysteries of a lemon chiffon pie



Training Salesmen

Section's standing committees

to survey industry problems in each field

Accountants plan for profits

The books of the Accounting Section have been opened for the 1950-1951 year. If concentrated effort and well-directed planning can be treated on the credit side of the ledger, the year-end closing should show substantial profits for the members.

Already the Section is reaping the benefits of an unusually early start and concentrated analytical appraisal by its officers, coordinators, and standing committee chairmen of the Section's obligations, policies, and practices. As a result, certain decisions have been made, discussed below, which should put the year's activities "in the black."

Chairman of the Section during the current administrative year is Alan A. Cullman, Columbia Engineering Corp., New York, New York. This year's vice-chairman is Ralph F. McGlone, The East Ohio Gas Co., Cleveland, Ohio. Mr. McGlone heads the usual administrative committees and is a member of the committee arranging for the equipment exhibit at the Joint Spring Conference.

Other key men in the administrative group are: Carter E. Shields, Michigan Consolidated Gas Co., Detroit, as General Activities coordinator; A. B. Dilworth, Northern Natural Gas Co., Omaha, chairman, General Accounting Committee; P. J. Buzanga, Consolidated Edison Co. of New York, Inc., chairman, Internal Auditing Committee; O. G. Peterson, New York State Electric & Gas Corp., Ithaca, chairman, Materials & Supplies Committee; H. G. Eilers, The Cincinnati Gas & Electric Co., chairman, Property Records Committee, and R. M. Dodds, Ebasco Services Inc., New York, chairman, Taxation Committee.

The Customer Activities Group will be directed by these key men: C. L. Havener, Consolidated Edison Co. of

New York, Inc., coordinator; L. R. Quad, Public Service Electric & Gas Co., Newark, N. J., chairman, Customer Accounting Committee; H. S. Hahn, The Ohio Fuel Gas Co., Columbus, chairman, Customer Collections Committee; C. L. DiGiovanni, Laclede Gas Company, St. Louis, Mo., chairman, Customer Relations Committee. The Accounting Employee Relations Committee is fortunate in having W. D. Sweetman, The Peoples Gas Light & Coke Co., Chicago, for chairman, and N. W. Wade, Memphis Light, Gas & Water Division, for vice-chairman.

Early in the summer, this group of men met to exchange ideas and formulate general plans for carrying on the Section's work.

Considerable discussion took place concerning the functioning of the standing committees. The feeling was expressed that in recent years these Committees had not been carrying on their full responsibilities but instead had been acting primarily as planning committees for the Spring Conference and the Fall Convention.

As a result, the standing committees will function as operating committees. They will survey fully each year those phases of the industry's current problems for which the individual committees are responsible. They will discuss the problems at special meetings, delegating to project committees those problems which need further study. Each project committee will be responsible for the development of a complete, comprehensive report on its assigned problem. This phase of committee responsibility is considered of paramount importance due to the chaotic condition of world affairs and the outlook for "tight" supply both in manpower and equipment due to expanding military operations for national defense.



Chairman Alan A. Cullman and his co-workers have developed a program to help member companies maintain efficient operations



Vice-Chairman Ralph F. McGlone heads Section's administrative group that has completed plans for an active year in the accounting field

General Activities Group



CARTER E. SHIELDS
Coordinator, General
Activities Group



A. B. DILWORTH
Chairman, General
Accounting Committee



P. J. BUZANGA
Chairman, Internal
Auditing Committee



O. G. PETERSON
Chairman, Materials
& Supplies Committee



R. M. DODDS
Chairman, Taxation
Committee



H. G. EILERS
Chairman, Property
Records Committee

Customer Activities Group



C. L. HAVENER
Coordinator, Customer
Activities Group



L. R. QUAD
Chairman, Customer
Accounting Committee



H. S. HAHN
Chairman, Customer
Collections Committee



C. L. DIGIOVANNI
Chairman, Customer
Relations Committee

Accounting Employee Relations Committee



W. D. SWEETMAN
Chairman, Accounting
Employee Relations

Accounting Section committees will be alert to these constantly changing conditions. They will be prepared to consider and disseminate ways and means of maintaining efficiency in operations despite material shortages and lack of manpower. Many of the committee members can draw on their World War II experience in combating these same problems. They will be able to pass on suggestions based on actual wartime operations to assist accountants in the industry in maintaining the highest standards possible in getting their jobs done. In addition, accounting problems arising from the changeover to natural gas now going on and projected for large segments of the industry will receive their full share of attention.

Project Committee reports will be reviewed by, and subscribed to, by the entire standing committee. Each report will become a report of the standing committee with the name of each standing committee member appearing thereon. It was also agreed, as a general principle, that project committees will not be handicapped by limiting the time

available for investigation and analysis to the date of a Spring Conference or a Fall Convention. Instead, they will be allowed all the time reasonably necessary to do a complete job on their assignments. Establishment of new project committees will not be geared to a conference or convention time table but will be made at any time during the year that the need becomes apparent—as a result either of current developments in the industry or as a result of discussion at meetings of the standing committees.

Current problems

An important point is that full committee meetings will be held for general discussion of current problems, either submitted in advance or presented at the meeting. One such meeting will be held after the 1950 Convention. At least one half-day of the Spring Conference will be devoted to committee meetings.

Organizational meetings of the type mentioned have been held by all committees and each has organized its plans along the general lines outlined. Cir-

cumstances and emergencies may force some changes or additions to the projects enumerated. Here, however, is the list of subcommittees or projects that have resulted from these meetings.

● **Customer Accounting Committee**—Simplification of, or Short Cuts in Commercial Accounting Procedures; Directory of Customer Accounting Methods and Equipment; Evaluation and Appraisal of Billing Techniques; Improving Meter Reading Efficiency; Operations Involved in the Handling of Cash Receipts; Preservation and Protection of Records; How to Meet the Manpower Shortage; Centralized vs Decentralized Billing and Accounting.

● **Customer Collections Committee**—Collection Follow-up by Telephone; Authorized Pay Station Practice; Better Collection Letters; More Effective Collection Follow-up on Final Accounts. Tentative consideration has been given to Standardization of Collection Costs on a Man-hour Basis; Industry Practices in Initiating Collection Work on Active Accounts; Positive vs Negative History Files. *(Continued on next page)*

● **Customer Relations Committee**—Three P's in a Pod (Policy, Procedure, Personnel); Welcome Treatment to New Customers; Coordinating With Other Departments Handling Customer Complaints; Value of District Offices as Wailing Walls; Telephone Institute; Training by Films and Manual.

As a special presentation at the Customer Activities Group meeting, all three of the above committees will appoint members to participate in a panel discussion on Monthly Billing vs "Other" Billing.

● **Accounting Employee Relations Committee**—In addition to sponsoring James F. Oates, Jr., chairman, The Peoples Gas Light & Coke Co., as a speaker on the general session talking on "Human Relations," this committee will sponsor a discussion on "The Democratic Technique of Supervision." It will also start the preparation of a package training program to cover orientation, company organization, basic economics and job training. This ambitious undertaking, which will rank with previous reports on supervisory training and rating plans, will provide the industry with another basic tool with which to build good employee relations.

● **General Accounting Committee**—Projects selected by this committee will

be brought within the scope of the following subcommittees:

Accounting Techniques: Scope—Payrolls, Stores, Transportation and Clearing Account Projects.

Budgeting and Forecasting: Scope—Effective methods of preparing company budgets and forecasts and related matters, such as methods of controlling commitments, etc.

Capitalization of Overheads: Scope—Capitalization of Overheads and related projects, such as accounting for non-productive time.

Financial Reporting: Scope—All phases of financial reporting for both internal and external purposes.

Preservation and Destruction of Records: Scope—Plans for preservation of records in event of bombings, recommendations to regulatory bodies, studies involving internal controls on record keeping.

● **Internal Auditing Committee**—Three long-term projects were decided upon: Audit Manual Format, Manual for Audit of Customers Accounts Receivable, and Case Histories. Another subject selected is "How May an Internal Auditor Best Serve His Company—Training Future Executives, Evaluating Personnel, Determining Efficiency of Operations."

A special paper on "Accounting, Control and Auditing of Costs in Connection with Conversion to Natural Gas" will be presented at the 1951 Convention. At one of its meetings, the committee will present a panel discussing subjects selected from a 17-subject list which includes such topics as "Should The Internal Auditor Inventory Fixed Capital Accounts," "Evaluation of Personnel Efficiency by The Internal Auditor," and "Use of IBM Records in Internal Auditing."

● **Property Records Committee**—Adapting Plant Accounting Records to Depreciation Study Requirements; Capitalization of Overheads; Machine Accounting for Detailed Plant Records; Plant Cost Accounting Simplification. In addition, a subcommittee has been appointed to prepare a paper of special interest to gas companies for the 1951 Convention.

● **Materials and Supplies Committee**—Handling, Storage and Preservation (Physical) of Materials; Minor Materials and Tools-Accounting, Purchasing, and Handling; Material Control-Accounting, Purchasing and Reordering, and Stock or Inventory Control with particular emphasis on obsolescence. The Standard Packaging subcommittee will continue with (Continued on page 43)



Managing Committee of the Accounting Section meeting in Hot Springs, Va., November 16 and 17. Heading the agenda was a review of activities of a special A.G.A.-EEL committee, author of the recent report entitled "The Impact of an Excess Profits Tax on the Gas and Electric Utility Industries." A major development was appointment of a committee to study electronics in accounting

Gas ready to play major defense role

Industrial plant expansion in the United States is expected to break all records in 1951. Nearly five billion dollars will be spent during the first quarter for machinery and other equipment under the mushrooming armaments program. Recent emphasis on industrial gas uses for production line processing and advances in the commercial gas field should prove increasingly valuable to this national defense effort.

Gas fuel is now generally accepted for the many processing operations in the metal working field. Certainly the various types of industrial gas furnaces and other gas heating equipment will be used ever more extensively in industry's expansion. Manufacturers of industrial gas heating equipment for processing operations should not be subject to oppressive restrictions because their products will be made for and sold for defense production.

To meet new situations as they arise, the Industrial and Commercial Gas Section is prepared to render service to its members just as it did during World War II. Over-all plans for 1951 have been organized at the organizational meetings of the several committees that institute and carry out the program of the Section as approved by the Managing Committee and the Section officers, Chairman Carl H. Lekberg, Northern Indiana Public Service Co., Hammond, Ind., and Vice-Chairman R. A. Malony, The Bridgeport (Conn.) Gas Light Company. Some committees have carry-over programs of predecessor committees. Others are



A. G. A. Food Service Equipment Committee: (Seated, left to right) Tracy Madoles, J. T. Heilig, M. H. Douglas, George W. Leidholdt, Elmer Lerch, Paul Grimes, E. V. Fleeran, chairman; R. S. Chapman, E. L. Horton, G. A. Seale, William Green, Donald E. Dillon; (standing) J. M. Johnson, Paul Inskip, E. J. Mayland, Joseph Gabris, J. V. Hall, J. J. Condon, L. L. Peters, M. A. Combs; C. C. Hanthorn, F. L. Firor, R. E. Regan, M. L. Bradley.



Meeting of Industrial Processing Committee (Seated, left to right) E. Gilbert Silven, E. V. K. Schutt, E. C. Lundt, Lee M. Humphrys, Leslie W. Larson, R. C. LeMay, (standing, left to right) Carl Wierum, George C. Way, Harley Burns, M. A. Combs, A. G. A., J. H. Mikula, committee chairman; Stanley M. Lausch, L. R. Foote, W. S. Sims, E. Nelson

planning new investigations and activities to be conducted during the Association year.

The three committees in the industrial gas field have set up ambitious programs. These should make valuable contributions to industrial gas men in their every day contact with their customers.

Metals Committee: Chairman Stewart C. Parker, The Peoples Gas Light and Coke Co., Chicago. The Information Letters will be continued as part of this group's program. Two subjects have been decided upon. One letter is to be on "Galvanizing" and another is on "Low Frequency Induction Melting versus Gas Melting for Die Casting Metals." The latter Information Letter will be on the low frequency

portion of the original paper prepared by Mr. Parker. It is felt that this letter is most important at this time due to the rate at which low frequency induction metal melters are being installed for die casting operations.

On the subject of brass melting, a rather complete study will be made as there is much to be desired in the equipment field. A subcommittee has been designated to make this study. It will recommend procedures on a more aggressive promotion of gas for brass melting.

Information Letters will also form the basis of a part of the program of the Industrial Processing Committee, Jack H. Mikula, Milwaukee Gas Light Co., chairman. This committee covers a wide scope of subjects in the indus-

trial gas field.

One of the subjects selected for an Information Letter will be "Open Flame Processing and Forming," reporting the investigation conducted by last year's subcommittee. Another letter will be on the results of the studies by the Subcommittee on Food Processing when they investigated the problems of "smokehouses." Still another letter will cover the use of radiant gas heat in the television tube industry.

The consensus of opinion indicates that more promotion is needed in the field of gas heating as applied to textile finishing and drying. Local gas companies should explore the possibilities of gas utilization if they have textile plants in their territory. An

following subjects: "Suggestions Pertaining to Above-Ground Gas Piping Within Industrial and Commercial Premises," "Valves Used In Industrial Plant Gas Piping," and "Standard Nomenclature for Industrial Gas Burner Types and Gas-Air Mixing Systems."

Several investigations are planned by the Commercial Processing Committee, M. A. MacClurg, Laclede Gas Co., St. Louis, Mo., chairman. Three subcommittees will carry on the majority of the work during 1951. The Subcommittee on Commercial Gas Air Conditioning has been charged with investigating the market possibilities of 20-25-ton units. Subcommittee on Combination Gas-Oil Burners is to develop recommendations for off-peak

been postponed due to restricted use of materials for civilian purposes, the "Keep 'Em Cooking—With Gas" campaign is going forward. This drive will become increasingly important as shortages develop in the commercial equipment supply. It emphasizes the proper servicing and maintenance of commercial gas cooking equipment for longer life and more satisfactory customer performance. Inventories of cooking equipment in commercial volume feeding establishments will serve a dual purpose. They will give an accurate survey of equipment that should be replaced at the earliest possible moment, and also form the basis of allocations should the need arise.

Current plans call for the Section



Another major Industrial & Commercial Gas Section group—Metals Committee: (Clockwise around table) A. D. Wilcox, E. L. Woods, F. C. Schaefer, H. A. Clark, S. T. Olinger, E. B. Freeman, S. C. Parker, chairman; M. A. Combs, A. H. Koch, A. M. Thurston, K. A. Robinson, R. W. Millard, R. E. Crane

Information Letter being prepared on this subject will present a challenge to the gas industry to investigate the potentials of this profitable load. This also applies to the printing and paper industries where it has been demonstrated in a few plants that production and efficiencies can be materially increased by the use of various types of gas applications to the drying problem.

Committee on Industrial Gas Practices, C. C. Eeles, The Ohio Fuel Gas Co., Toledo, chairman, was formed during the past Association year and has made marked progress. The group plans to present their findings in the form of Information Letters. Three letters are now being prepared on the

commercial gas business utilizing this type of burner. Subcommittee on Volume Water Heating will work toward promoting summer off-peak business in this field. Information Letters will form the media by which the results of these investigations will be made known. One letter is already planned and will cover a fairly new subject—commercial incineration.

On the commercial cooking side of the picture is the Food Service Equipment Committee, E. V. Fineran, Washington (D. C.) Gas Light Co., chairman. The important "Chain Contact Program" will be continued.

In place of the proposed "Proof of Profits" sales campaign which has

to continue its participation in the national trade expositions as in the past. This work will be directed by the Committee on Displays at National Expositions, W. D. Relyea, Public Service Electric and Gas Co., Newark, N. J., chairman. For 1951, combined exhibits have been planned in the National Restaurant Exposition, the National Metal Congress and Exposition, and the National Hotel Exposition.

The annual Sales Conference on Industrial and Commercial Gas will be held as usual in the Spring, as will the Industrial Gas School. The schools are planned by the Sales Training Committee. Terry Hart, Nashville Gas and Heating Co., Nashville, Tenn., is chairman of this group.



Industrial Gas Practices Committee organizing its program for 1951: (Clockwise around table) E. L. Spanagel, A. D. Frydendall, D. A. Campbell, R. C. LeMay, Vance Uhlmeyer, R. L. Lang, C. C. Eeles, committee chairman

Hotel men preview latest gas equipment

a PAR activity

HATS OFF to the Hotels of America—Where Food Is Finest It's

Cooked with Gas! This message greeted the thousands of visitors who entered the Combined Commercial Gas Exhibit at the 1950 National Hotel Exposition. Once again, Grand Central Palace in New York was the scene of the country's largest trade show. Once again, the American Gas Association exhibit was the largest in the entire exposition.

During the week of November 6, most of the 130,400 visitors to the show passed through the Combined Commercial Gas Exhibit area.

A spokesman for the show, representing the more than 500 exhibitors on four floors, stated that: "Hotels will place an all-time record volume of orders. With equipment manufacturers fully caught up with the accumulated back-log of post-war business, hotel men are looking forward to this year as the one in which to take advantage of increased efficiency and economy in new equipment." This trend was reflected among the cooperating exhibitors in the gas exhibit where a good volume of business was transacted.

Most of the exhibitors reported that they had written more orders than in any previous show. Business was booked right up to the last minute of the exposition.

Cooperating manufacturers

Cooperating with American Gas Association in the Combined Exhibit were the following manufacturers: American Stove Co., St. Louis, Mo.; Anetsberger Brothers, Inc., Northbrook, Ill.; The G. S. Blodgett Co., Inc., Burlington, Vt.; The Cleveland Range Co., Cleveland, Ohio; Detroit-Michigan Stove Co., Detroit, Mich.; Duke Manufacturing Co., St. Louis, Mo.; Gas Consumers Association, New York; Kewanee Industrial Washer Corp., Kewanee, Ill.; J. C. Pitman & Sons Sales Corp., West Lynn, Mass.; Robertshaw-Fulton Controls Co., Youngwood, Pa.; Savory Equipment, Inc., Newark, N. J.; The Southern Equipment Co., St. Louis, Mo.; A. O. Smith Corp., Toledo, Ohio, and Vulcan-Hart Manufacturing Co., New York.

Following a custom instituted three years ago, a Commercial Gas Breakfast was held during Hotel Show Week. Commercial gas men and manufacturers of commercial gas equipment were invited to meet editors of publications in the food service field and officers of the national, state and local hotel associations. Guest speaker was J. Knight Willy, editor of *Hotel Monthly*.

Shortly before he gave his talk Mr. Willy had taken an extensive trip during which he asked hotel men to tell him something about the use of gas fuel and gas appliances in their respective establishments. Hotel men, Mr. Willy stated, would like to be able to submit their plans and specifications on new food service layouts to the gas industry for comment. They would like to ask: "Is this the right plan? Is it modern? Is it what you recommend? Will it provide the most efficient



Part of American Gas Association's Combined Commercial Gas Exhibit at the 1950 National Hotel Exposition in New York. Most of the 130,400 visitors passed through the combined exhibit where latest gas-fired commercial equipment was displayed under the slogan "Hats Off to the Hotels of America—Where Food Is Finest It's Cooked with Gas!"

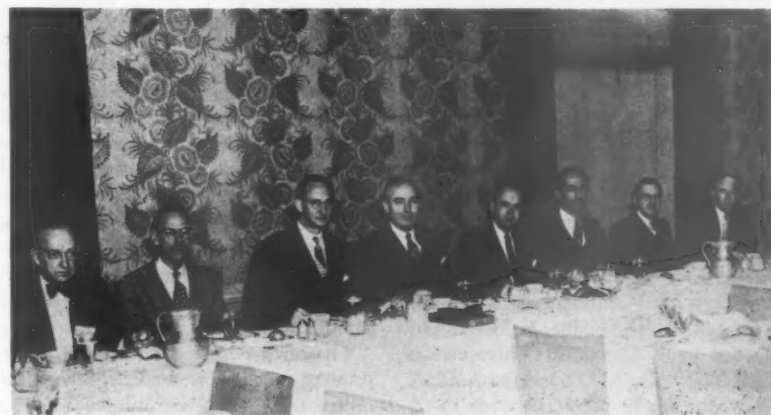
type of operation for me? If men with engineering experience and ability could be available to pass upon a proposed installation, it would give the hotel people a greater feeling of confidence in the use of gas equipment."

Another hotel man asked on the subject of gas refrigerators, "Why can't a machine like that be devised which would provide the refrigeration necessary for air conditioning hotels? This would not only provide a good outlet for the gas company during the hot months, which is normally supposed to be an off-peak period for them, but it would give the hotel man a break. He would earn an off-peak rate for fuel used during summer."

Commenting on another conversation, Mr. Willy reported that one hotel man told him he didn't care about the price of equipment if it will save its cost in a period of about a

year. This hotel man also told Mr. Willy that, "Every time he saves an employee, he counts it a minimum of \$200 a month saved. What hotel people are looking for today, I believe," he continued, "is something that will not necessarily follow traditions established 50 years ago, but which through the use of new, better, more scientific, foolproof equipment will enable them to do the job they have to do with the absolute minimum number of employees."

"Speaking for the hotel segment," Mr. Willy concluded, "if the equipment people and the gas people, through their own selfish motives in an effort to sell more of their respective products, can show hotel people how they, too, can sell more of their products by using more of the former to better advantage, then I think we have accomplished our goal."



Speakers' table guests at Commercial Gas Breakfast: E. J. Horton, (left) GAMA; Armin Kusswurm, secretary & general counsel, National Restaurant Association; J. Knight Willy, editor, *Hotel Monthly*; E. V. Fineran, chairman, A. G. A. Food Service Equipment Committee; Jake Fassett, American Hotel Association; Walter Averill, president, New York State Hotel Association; K. L. Seelbach, president, National Association of Food Equipment Manufacturers; J. A. McCarthy, exec. secty. Hotel Association of New York City, Inc.

Working groups strive to broaden services to the industry

Operating men plot '51 offensive



Part of head table at the 1950 Managing Committee dinner in New York last month: (Left to right) George T. Bentley, chairman, Gas Production Committee; H. Bruce Andersen, Section vice-chairman; R. Van Vliet, Section chairman; E. G. Campbell, Section past-chairman, and E. G. Boyer, representing Manufactured Gas Department



W. E. Kemen (left), Milwaukee Gas Light Co., and J. M. Pickford, Northern Indiana Public Service Co., discussing the Section's program

Major committees and subcommittees representing the 3,000 men in the Association's Operating Section have organized an ambitious program for 1951. Preliminary details of this master plan were revealed at special organizational meetings in New York, November 19 and 20.

Each of the Section's working groups has inventoried the major problems in its field and prepared a down-to-earth program of attack. Latest developments in each activity will be presented at the A. G. A. Distribution, Motor Vehicles and Corrosion Conference in Memphis, Tenn., April 16-18, the A. G. A. Production and Chemical Conference in New York, May 14-16, and the A. G. A. Convention in St. Louis, October 15-18.

In order to broaden the Operating Section's services to the industry, Chairman R. Van Vliet has appointed a special Editorial Committee to report on committee plans and accomplishments

through the columns of the A. G. A. MONTHLY. Jesse S. Yeaw, laboratory director, Rochester Gas & Electric Corp., 89 East Ave., Rochester, N. Y., has been named chairman of this group. Members of Section are encouraged to send their ideas and suggestions direct to Mr. Yeaw.

Committee programs were previewed in November at a meeting of the Section's Managing Committee presided over by Chairman Van Vliet and Vice-Chairman H. Bruce Andersen. G. R. King, chairman of the Purging Committee, noted that his group's Purging Handbook is undergoing final revisions and should be ready for printing late in 1951.

Chairman A. E. Sands stressed that a primary function of the Chemical Committee is to help companies with their problems. He noted that 11 papers will be available for the Chemical and Production Conference this spring. The committee has authorized the republication of V. J. Altieri's book "Gas Analysis

& Testing of Gaseous Materials." In addition, Louis Shnidman has been asked to proceed with the revision and editing of material for a new issue of the book "Gaseous Fuels."

Chairman G. T. Bentley of the Gas Production Committee announced that greatest interest is concentrated at present on the problems associated with arrival of natural gas along the Eastern Seaboard.

Corrosion Committee activities, as reported by Chairman A. H. Cramer, will concentrate on "taking the mystery out of corrosion." A program for research on micro-biological corrosion was presented to the committee by a research physicist. This plan would cost approximately \$20,000 a year for an indefinite number of years. The group was so impressed by this plan that it recommends that other organizations interested in corrosion problems be asked to participate in the program.

So much for the general details. Specific plans of eight major working groups in the Section have been prepared for the New Editorial Committee and are outlined below. Next month, and in future issues of the MONTHLY, still more of the Section's Committees and Subcommittees will discuss the major problems in each field and the avenues of attack that have been prepared.

● **Distribution Committee**, V. F. Bittner, The Peoples Gas Light & Coke Co., Chicago, chairman—Problems of distribution men throughout the coun-

rectly responsible for employee relations and methods of conducting work with greater safety.

Distribution subcommittees again this year have checked the industry's pulse by discussing the most pressing problems with members of the committee. These and other vital subjects will be discussed at the Distribution Conference, the Convention general sessions, and various luncheon conferences. Meanwhile, the gas industry can help the attack on these problems by publicizing any new and valuable experi-

other national organizations. However, close cooperation will be maintained with other organizations since many members of the committee are also members of those groups.

Specific objectives include: driver training and safe driving practices; standardization of truck body design; improved maintenance methods; cooperation with national, state and municipal regulatory and licensing authorities, and economical application of motor equipment. One of the most important jobs on the 1951 agenda is



Get-together at organization meetings: (Left to right) T. F. Loughry, Surface Combustion Corp.; G. M. Hammond, Michigan Consolidated Gas Co.; H. C. Jones, New England Power Service Co.; Dr. F. E. Vandaveer, The East Ohio Gas Co.; G. V. McGurl, Koppers; H. E. Ferris, South Atlantic Gas Co.



Conferring on 1951: (Left to right) Conrad Lavardure, Quebec Hydro-Electric Commission, Montreal; Marshall Hyde, Natural Gas Odorizing Co., Port Huron, Mich.; Joe Joachim, Michigan Consolidated

try vary considerably because of geographical locations and types of systems, as well as the types of gas being distributed. Frequently, however, problems facing particular companies have been studied and solutions found that are directly applicable to new conditions confronting still other companies.

Recently, distribution men have been concerned chiefly with the most economical method of obtaining more capacity from the distribution system.

Many of these companies also have common problems concerned with the introduction of natural gas. Others which have met these problems, are concerned with methods of increasing production through more mechanization, boring, and the utilization of one-foot openings. In addition to these and many other problems, the alert distribution man is concentrating on improvement of personnel relations at the operating level. Operators are di-

ences. This can be done best through active participation in various gas associations and especially in the A. G. A. Distribution Conference.

● **Motor Vehicles Committee**, P. W. Rogers, The Ohio Fuel Gas Co., Columbus, chairman—The possibility of holding quarterly sectional meetings for A. G. A. and EEI motor vehicle men is being investigated by this group. A. G. A. Committee members have been asked to submit their suggestions to W. E. Albright, The Philadelphia Gas Works Company. These sectional meetings would explore local problems and develop subjects to be incorporated into the regular spring meetings.

Main objective of this committee is to provide a place or forum where operators of public utility motor vehicles can pool their knowledge and discuss common problems. Many of these problems common to both gas and electric company fleets have found no place in

to help sell benefits derived and economies possible from close cooperation between management and fleet superintendents.

● **Subcommittee on New Developments** (of the Chemical Committee), E. V. Harlow, Koppers Co., Inc., Baltimore, chairman—Developments that are in progress but not yet ready for publication will be reported during the year. Members of this group feel that it is desirable to uncover problems arising in the gas industry at the earliest possible time in order to avoid sudden emergencies.

The customary annual report will be made by this committee. In addition, the group hopes to keep the industry up-to-date on new developments and new problems.

● **Subcommittee on Distribution Design and Development**, H. G. Howell, Memphis Light, Gas & Water Division, chairman—Letters of inquiry



Chemical Committee: (Seated, l. to r.) Dr. W. J. Huff, Vice-Chairman E. G. Hammer-schmidt, Chairman A. E. Sands, Henry Hake-will, Dr. F. E. Vandaveer, Louis Shnidman, Benjamin Miller, Dr. A. A. Orning; (stand-ing) Samuel Cohn, R. M. Pearson, D. L. White, Earl V. Harlow, G. V. McGurl, C. E. Farmer, T. B. Tinney, Ralph L. Coryell (rep-resenting I. B. Dick), Ben K. Duffy, Dr. W. W. Hodge, W. H. Fulweiler (at the far right)

from various companies show that the gas industry is most concerned with such problems as conversion, diversity factors, forecasting of daily loads, safety regulations, gas pressure and standardization. Members of this working group also expressed interest in determination of gas flow within the distribution network, average customer maximum hourly rate in relation to heat saturation, pressure and dual regulation, civil defense and leak surveys.

Discussion, questionnaires and special investigations are planned by the subcommittee. The following subjects seemed to warrant intensive study and possible presentation at the spring conference:

(1) A quicker method of making distribution studies.

(2) Forecasting daily loads, maximum hours, etc., digest of diversity factors and an investigation into the average customer's maximum hourly rate as relating to space heating saturation.

(3) Study of the restoration of high pressure in high pressure mains following an outage.

(4) Planning and sectionalizing the distribution system prior to change-over to natural gas.

(5) Gas cleaning for filtering dust at regulator stations.

(6) Safety within the gas industry—a "must" topic.

(7) Regulator and regulator controls. This subject was found so important that a panel has been appointed to seek answers to such problems as single and dual regulation and matters allied to regulators in general.

● Subcommittee on Meters and Metering, G. E. Griffin, Jr., The Brooklyn Union Gas Co., chairman—A list of 22 subjects was considered at the organizational meeting of this group and reduced to 12 subjects for the Memphis conference.

Three basic aims were set up in the past for this subcommittee's work: (1) to help by a composite effort to work out current problems which face meter men in various parts of the country; (2) to make helpful information available to meter shops of all sizes, and (3) to aid in the development of better methods or equipment in the field of metering.

Under current problems, one of the more important subjects this year will be the effect on meters of a changeover to straight natural or mixed gas. Many of the eastern companies will have their "baptism by fire" before the Distribution Conference. An exchange of problems and experience should prove valuable to these companies.

Other items which might be considered current problems are comprehensive studies of large volume measurement, job training in meter shops, economic aspects of metering, relative merits of different types of diaphragm materials. Last, but not least, is the vital subject of safety.

A good example of helpful information is the bibliography of articles on meters and metering which was brought up to date last year. The committee plans to issue supplemental sheets each year to keep this work current. A complete reprint will be made at five-year intervals.

In recent years there have been many new developments in tools and equipment for meter shops. Special data sheets will be prepared by this subcommittee for insertion in standard loose leaf binders. These sheets will furnish essential information and supply sources so that knowledge of these developments will be distributed more widely.

Consideration is also being given to revision of the manual on repair practice, or the compilation of a gas metering handbook.

Several projects "on the books" for 1951 will aid in the development of better methods or equipment in the metering field. A good example is the work being undertaken in cooperation with the Bureau of Standards to establish a correct procedure for determining meter capacities. A study is also being made of valve cover design and valve seat warpage. This project should result in a better understanding of the factors affecting meter accuracy. Establishment of acceptance standards for new meters and development of workable methods for repairing leaks in the field are other projects undertaken by the committee.

In addition, the group has scheduled a paper for the general session of the Distribution Conference. This will be a primer on orifice metering. The speaker will use the cartoon technique.

● Subcommittee on Work on Consumers' Premises, M. M. Pears, Equitable Gas Co., Pittsburgh, chairman—These men are constantly striving to improve the quality of customer service, while keeping costs within economical limits. To achieve this goal, simplification and standardization of appliances will be a featured project.

"Standardization" does not mean stifling the initiative of appliance designers and manufacturers. But it does mean the elimination of special tools for each new appliance that appears on the market. Some progress has been made in securing specific time, motion and tool study data. This project will be pushed still further in 1951.

Well trained service men are essential to all customer service groups. Many larger companies are equipped with suitable classrooms, laboratories and full-time instructors, but many smaller companies cannot afford such elaborate facilities. In order to fill this need the group is attempting to de-

Distribution: (Seated, l. to r.) J. G. White, H. G. Howell, T. H. Kendall, J. M. Pickford, Chairman V. F. Bittner, Vice-Chairman J. A. Whelpley, P. W. Geldard, P. K. Wallace, G. A. S. Cooper; (standing) D. G. Findlay, M. M. Pears, E. L. Henderson, J. M. McCaleb, W. P. Dick, W. J. Towner, K. E. Schmidt, D. Whitcomb, G. E. Griffin, G. Estill, W. J. Menet, R. J. Ott, R. B. Barger, T. L. Goodwin, Jr., R. Marples, G. G. Ellerbrock, R. J. Plank



velop a "Customer Service Training Kit" that will provide "packaged" training at a price within practical reach of the small company as well as the large. An interesting sample should be ready for presentation at the Spring conference.

Many companies are distributing or plan to distribute natural gas for the first time. Other companies which have already gone through the changeover period have secured valuable data and experience which would be of great value to those companies in the first group. In an effort to make available as much information concerning changeover practices as possible, the Subcommittee on Work on Consumers' Premises plans to develop a paper and hand book covering changeover practices.

Numerous servicemen have developed special tools, equipment, instruments, gauges and servicing procedures which have proved helpful in their daily routine. Unfortunately, most of these good ideas or "Wrinkles" never go beyond the limits of the servicemen's respective companies, merely because there is no channel through which all companies can be acquainted with the new developments. In order to make it easy to share ideas with fellow customer servicemen, a clearing house for Customer Service Wrinkles has been established by this group. Plans are to (Continued on page 53)

Corrosion Committee: (Seated, l. to r.) M. C. Miller, S. E. Trouard, Francis Ringer, Chairman Cramer, Vice-Chairman Simpson, W. J. Schreiner, J. L. Adkins; (standing) W. J. Kretschmer, A. L. Stegner, Dr. I. A. Denison, Keith K. Reid, N. P. Peiffer, Conrad Laverdure, D. L. Hayner, John Mandley L. B. Donovan, Morton Bermann, R. C. Bryce, R. L. Featherly, W. B. Cameron, L. Stuart, Jr., and Dr. Carl G. Deuber



Motor Vehicles: (Seated, l. to r.) A. E. Dible, Chairman Rogers, Vice-Chairman Albright, S. G. Page, L. C. Alexander, H. J. Chambers; (standing) I. G. Anderson, H. E. Kent, J. L. Coyne, E. P. Burden, G. M. Hammond, Linn Edsall and H. L. Parlette



Gas Production Committee meeting in New York: (Foreground) Linn B. Bowman (left) and Alan E. Lockwood; (seated, l. to r.) H. K. Merker, B. M. Keys, J. J. Campbell, R. Van Vliet, J. P. Stephens, Chairman Bentley, Vice-Chairman Hulswit, W. A. Meldrum, J. S. Haug, J. L. Turnan, H. C. Jones; (standing) I. J. True, A. C. Sedlachek, R. B. Paquette, H. E. Ferris, J. W. Carroll, A. B. Lauderbaugh, F. E. Ceccarelli, Dr. C. R. Downs, W. H. Isaacs, A. E. Harvey, L. L. Newman, G. R. Strimbeck, L. E. Osmer, J. A. Messenger



Residential plans ready for action

Long-range sales program will be kept abreast of changing conditions during the new year

Events are moving fast. The new year may bring the threat of widespread hostilities, allocation of critical materials under an all-out defense program, and many other disconcerting factors. Nevertheless, a basic industry such as the gas business must have specific sales, promotional and advertising plans ready for action in 1951 as circumstances warrant.

This type of program has been drawn up for the Section's operating committees with the assistance and support of the A. G. A. Promotion Bureau. For the second year in a row, a program of long-range planning has been developed in order to provide gas companies, gas appliance manufacturers and dealers with advance notice of Residential Gas Section activities.

Mid-November marked completion of the organization meetings of all the operating committees of the Sec-

tion. Plans and program for the year have been approved as recommended with several minor changes. These programs are subject to constant scrutiny and review by all the involved committees in light of existing conditions and conditions which will prevail at the time the programs are to be put into effect.

The gas industry faces the new year with many important problems remaining unsolved. A number of these major problems were recently discussed by top-level management at the A.G.A. Executive Sales Conference in Chicago on September 6 and 7, 1950. As a result, many gas companies have become increasingly active in achieving the necessary solutions. Among some of the most important problems which were thoroughly, analyzed and reviewed were:

(a) Sales manpower, including selection and training of a greater num-

ber of salesmen and dealers.

(b) A more modern pattern of distribution of gas appliances and equipment.

(c) Better installation and servicing policies.

(d) More advertising and publicity.

(e) Selling the new-home market.

(f) Improved gas appliances and equipment.

(g) National promotion, advertising and research.

A number of these problems are beyond the scope of the Residential Gas Section. However, its committees on Sales Training, Housing, and Improving Domestic Gas Appliances are bending every effort to solve the problems of sales manpower, the new-home market and improved gas appliances and equipment, through the preparation of programs and materials for use by gas utility companies at the local level.



Program meeting of Gas Summer Air Conditioning Committee: (Seated, l. to r.) Walter S. Williams, Chairman H. W. Doering, L. Bert Nye, Jr., John Gilbreath; (standing, l. to r.) L. W. Crump, R. H. Ten Eyck, F. W. Williams, A. G. A., J. E. Cockley



Gas Incineration Committee: (Seated, l. to r.) Chairman Ira J. Rapson, John S. McElwain; (standing) J. G. Dierkes, George Schwartz, Willard Milbourne, J. J. Wholey, Harold Massey; (rear) Bob Wellstead, John W. Hebert, T. H. Landgraf, E. E. Smauder



Committee on Housing: (Seated, left to right) Roderic Peters, Chairman James E. West, H. A. Klevenaar, (standing, left to right) F. W. Williams, Don P. Warner, George Fraser, J. J. Brandt, James I. Gorton, L. P. Fridley, J. R. Lee, C. W. Roll, A. B. Cameron, F. M. Rosenkrans



Gas Laundry Equipment: (Seated, L. to r.) Don H. Davidson, J. H. Snyder, F. S. Thomas, Chairman Kurdelski, Mrs. Mary N. Hall; (standing) A. C. Scott, J. I. Gorton, R. B. Myers, John Wicht, N. R. Millard, D. C. McDermand and O. Nugent



1951 planning session of Dealer Relations Committee: (Seated, l. to r.) Herbert Hall, Committee Chairman W. D. Williams, Irving R. Jensen, James C. Sackman; (standing, l. to r.) James I. Gorton, H. R. Zeamer, J. G. Berwanger, F. W. Williams, secretary of the Section



Refrigeration: (Seated) Charles Pearson, John Knighton, F. C. Terrell, Chairman Hutcheson, Eleanor Morrison, W. Paul Jones; (standing) J. A. Reynolds, Lee Corn, D. R. Harper, F. D. Bradley, R. A. Gordon, Frank Trembly, R. E. Wright; R. J. Canniff

Despite the continued increase of electric equipment sales, the majority of which are sold by the dealer, many gas companies are still operating with a skeleton sales force. Many have not seen fit to accentuate their dealer co-operative programs. This situation must be corrected in order to offset competitive efforts for the residential markets.

The Residential Gas Section and the A. G. A. Promotional Bureau, like individual gas companies and gas appliance manufacturers, are well aware of the many unforeseen factors which will affect 1951 activities. In view of these conditions, the sales, advertising and promotional programs for the coming year—as recommended by the appliance committees of the Section and implemented by the A. G. A. Promotional Bureau through the production of campaign materials—are flexible and subject to constant review.

One important change will be in connection with distribution of the 1951 A. G. A. Sales, Promotional and Advertising Schedule to the gas industry. Obviously it is impossible to accurately forecast the entire year of 1951. Therefore, rather than endeavor to produce an annual sales calendar similar to the 1950 calendar, the following procedure will be adopted:

A. December 1—Mailing of the 1951 A. G. A. promotional schedule of all residential appliances, indicating the promotion periods and the advertising tie-ins. This schedule will point out that it is subject to change.

B. January 1—Mailing of the campaign portfolio and all of the promotional materials for the 1951 "Early Bird" Campaign, featuring gas incineration in January, and automatic gas clothes dryers and water heaters in February and March.

C. February 1—Mailing the second

three months' calendar, in addition to the campaign portfolios and promotional materials for the "Spring Festival" promotion on gas ranges and year 'round air conditioning.

D. March 30—Mailing of the third-quarter calendar, in addition to the portfolio, and sales and promotional materials for the "Gracious Living" promotion on refrigerators and house heating.

E. June 29—Mailing of the last quarter calendar, in addition to the portfolio, and sales and promotional materials on the "Fall Harvest" promotion on ranges and commercial cooking.

(Note: The above schedule is subject to change.)

Following is a brief outline of the highlights of all committee activities for the year 1951.

● Domestic Range Committee: Chairman—W. L. Hayes, general sales mana-

Planning session of Gas House Heating Committee: (Seated, left to right) A. E. Higgins, H. C. Gurney, D. D. Piper, Chairman E. L. Vervoort, J. A. McMullin, W. J. Hampton, Harold Massey; (standing) J. N. Crawford, G. F. Thomas, E. P. Hayes, L. H. Kimball, Kenneth Lucas, Allen Vautier, P. K. Addams, T. H. Evans, C. L. Burrows, H. Vinton Potter and F. L. Adams (at the far right)



ger, Montana-Dakota Utilities Co., Minneapolis.

A gas range sales, advertising and promotional program, featuring the "Spring Style Show" in April, May and June, and the "Old Stove Roundup" in October and November. These programs will be implemented by a special series of meetings during the latter part of February, which will be organized by the utility members of the committee who act as gas range regional managers for their respective areas. State managers in each region will be invited to attend the meetings in order that they may receive full information and details relative to the program. They will help to organize full participation and support of gas utility companies in their respective states.

● **Gas Refrigeration Committee:** Chairman—W. L. Hutcheson, sales manager, The Manufacturers Light & Heat Co., Pittsburgh.

A gas refrigeration sales, advertising and promotional program in June, July and August. The committee, in cooperation with Servel Inc., will again undertake a gas refrigeration sales contest for gas utility companies. A separate contest, sponsored by Servel, will be undertaken for all retail salesmen, including the gas utility company, the dealer and the distributor.

The committee will also prepare a booklet devoted to successful selling techniques on the gas refrigerator for distribution to the industry.

● **Gas Water Heating Committee:** Chairman—A. G. Bur, sales manager,

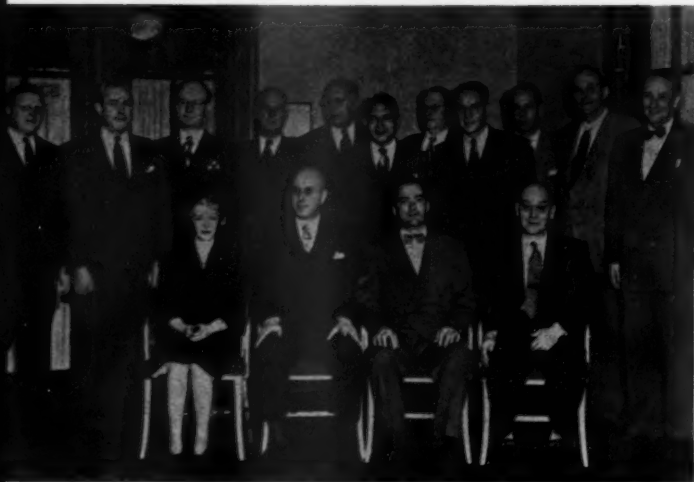
Wisconsin Public Service Corp., Green Bay, Wisconsin.

A gas water heater sales, advertising and promotional program for the months of February and March.

● **Gas House Heating Committee:** Chairman—E. L. Vervoort, supervisor, house heating group, The Brooklyn Union Gas Company.

A gas house heating sales and promotional program in July, August and September. This committee is also in charge of the A. G. A. Gas Heating Progress Award, sponsored by The Coroaire Heater Corp., which will be continued in 1951.

The committee will also handle the details of distributing corrected data for the "Guide for Installers of Gas Central Heating Systems, Conversion



Members of the Residential Gas Section's Domestic Range Committee planning the group's program for the coming year: (Front row, left to right) Ruth B. Soule, Chairman W. L. Hayes, Tom Gibbons and H. D. Valentine; (middle row, left to right) Ed Westland, F. C. Terrell, H. L. Clary, George D. Wells, James I. Gorton, Lloyd Ginn, Fred Lauer, H. E. Jalass; (rear row) R. A. Koehler, H. B. Hall and E. S. Sharp



New Freedom Gas Kitchen Committee meeting: (Seated, left to right) N. D. Jennings, H. V. Potter, R. F. Calrow, Jessie McQueen, Evelyn Kirkpatrick, D. Jensen, Eleanor Morrison, Chairman Schmidt, Mary E. Huck, H. H. McMurray, A. F. Cassidy, W. Foster, H. E. Jalass, J. I. Gorton; (standing) A. G. Bur, D. S. Sharp, D. M. Harper, W. L. Hayes, P. F. Atlas, Julius Klein, M. M. Scott, P. E. Peter, Christy Payne, Jr.

Burners, Floor Furnaces, Vented Space Heaters and Unit Heaters." Some 20,000 copies of this guide have been purchased by gas utility companies for local distribution.

● **Gas Summer Air Conditioning Committee:** Chairman—H. W. Doering, manager, house heating & air conditioning department, Springfield Gas Light Co., Springfield, Massachusetts.

A Gas Summer Air Conditioning sales and promotional program in April, May and June. The Annual Gas Summer Air Conditioning Progress Award conducted by the Committee, of which Servel Inc. is the donor of awards, will be continued with a number of changes in format insofar as the distribution of the award funds is concerned.

● **Gas Laundry Equipment Committee:** Chairman—Walter H. Kurdelski, residential sales manager, Michigan Consolidated Gas Co., Grand Rapids.

A gas laundry equipment sales, advertising and promotional program in February and March. The committee will also prepare a series of monthly bulletins devoted to gas laundry dryer sales, advertising, display and publicity ideas for distribution to gas utilities, beginning on April 1.

● **Gas Incineration Committee:** Chairman—Ira J. Rapson, assistant to sales manager, Michigan Consolidated Gas Co., Detroit.

A gas incineration sales and promo-

tional program in January. The committee will also prepare a series of monthly Bulletins devoted to gas incinerator sales, advertising, display and publicity ideas for distribution to gas utilities, beginning on February 1.

● **New Freedom Gas Kitchen Committee:** Chairman—W. J. Schmidt, assistant vice-president, Long Island Lighting Co., Mineola, New York.

(1) *McCall's Magazine*—"My Kitchen" Contest. McCall's expect that there will be over 200,000 entries in this promotion which is slanted directly at general consumers. The contest begins with the March issue and continues through April, May and June. First prize winners will be announced in September or October in order to tie-in with American Gas Association. There will be prizes for an all-gas kitchen in addition to six other kitchen and laundry prizes which can be either gas or electric.

In cooperating and tying-in their "kitchen" contest with A. G. A., *McCall's* have made up a complete display and publicity package for all utility companies. Further, the magazine will devote several pages, four-color and two-color, to kitchen articles, etc. in their issues during the four-month period of the promotion.

For its part, A. G. A. is planning to run a four-color ad in the *McCall's* March issue which ties in with the contest. All GAMA manufacturers, plus

cooperating cabinet firms, have been urged to advertise in the opening *McCall's* March issue and also to send in promotional material which will be listed in the contestant's entry blank.

(2) National Plan Service, Inc., Chicago publishers, released a book in 1950 for architects and builders entitled, "Planning Your Individual Home." They are now completing a 16-page, four-color, letter press booklet which will be devoted exclusively to New Freedom Gas Kitchens and Laundries. National Plan Service Inc. will make an initial run of 100,000 copies of this booklet which will go directly to architects and builders. Further, in addition to making available the A. G. A. kitchen and laundry material, the New Freedom Gas Kitchen Bureau will also run 100,000 copies of this new booklet which will be resold to utility companies.

(3) National Home Builders Association—A New Freedom Gas Kitchen will be part of the A. G. A. Exhibit at the coming National Association of Home Builders Convention and Exposition at Chicago in January 1951. During the course of the year, steps will be taken to insure having at least three or four New Freedom Gas Kitchens and Laundries available for Home Builders Show at Chicago in January 1952.

(4) American Home Economics Association Convention & Exhibit—Plans are being formulated to have two or at least three New (Continued on page 54)



Board of strategy of the Residential Section's Gas Water Heating Committee studying gas industry's 1951 water heating program: (Seated, left to right) H. Vinton Potter, J. G. Tooker, A. F. Cassidy, Chairman A. G. Bur, J. A. Reynolds, Stanley C. Gorman; (standing) H. H. McMurray, Clifford E. Hall, F. C. Terrell, R. W. Simpson, R. J. Miller, C. F. Sevenoaks, H. D. Wilson, J. F. Donnelly and R. A. Bissell



Program meeting of Association's Committee on Improving Domestic Gas Appliances: (Seated, l. to r.) A. H. Brodbeck, J. A. Nelson, F. M. Rosenkrans, Chairman Nelson, Elizabeth Lynnehan, Leo A. Peachey, W. H. Glines; (standing) H. V. Potter, B. B. Turner, W. J. Schmidt, R. Koebelman, J. Frost, W. J. Foster, Harold Massey, C. M. Mayer, F. W. Williams, J. R. Beccia, J. I. Gorton, Julius Klein

Industry news

More and better gas appliances for Canada

NOT LONG after the founding of the American Gas Association Laboratories in 1925 and the introduction of laboratory tested gas appliances, a similar program was inaugurated in the Dominion of Canada by the Canadian Gas Association.

Adopting the same appliance standards and the over-all general objectives of the testing program sponsored by the A. G. A., the Canadian Gas Association action, taken in 1927, substantially broadened the scope of A. G. A. Laboratories activities. It added an international note, enhancing the reputation of the Laboratories and helping to build customer acceptance of tested and approved gas appliances in both countries.

Today the Canadian program is bringing to their manufacturers, utilities and consumers the same over-all benefits that have resulted from the program in the United States. It is gaining in acceptance by the public and receiving each year greater support from manufacturers and utilities. It has been responsible in large measure for elimination from the market of a great number of unsafe appliances as well as for elevation of appliance standards to a marked degree.

Since the war particularly the Canadian program has made rapid strides and many American manufacturers have entered the Canadian market. Some have established plants there while others have established Canadian distributorships. Testing and inspection of gas appliances by the A. G. A. Laboratories for the Canadian Gas Association increased nearly 100 percent during 1950 as compared to the previous year. This is reflected in the fact that the current fifty-fourth edition of the

Canadian Gas Association's Directory of Approved Gas Appliances and Listed Accessories contains nearly twice as many listings as the previous issue.

Exceptionally close cooperation between the Canadian Gas Association and American Gas Association has been the rule ever since the affiliation agreement between them was signed in 1927. Under the agreement, the Laboratories are designated as the official testing agency for the Canadian Association. As such, they test appliances and accessories, prepare descriptions of approved equipment, and conduct factory inspections to determine that appliances and accessories are fabricated as approved.

Canadian Gas Association maintains its own approval seal for approved appliances and listing symbol for certified accessories (see accompanying illustration). It issues its own certificates of compliance to manufacturers based on data supplied by the Laboratories. Equipment which is certified by both the Laboratories and the Canadian Association may display both seals of approval if desired.



Appliances approved for Canadian distribution are officially listed in the Canadian Gas Association's Directory of Approved Gas Appliances and Listed Accessories, published by the Laboratory Approval Extension Division. Since the same approval and listing requirements are employed in testing for either American or Canadian certification, manufacturers already having certification for one country may obtain extensions of approval for the other without retest at the Laboratories. At the present time approximately an equal number of Canadian and American manufacturers produce equipment approved for Canadian distribution.

Under the cooperative agreement, representatives of the Canadian gas industry serve as members of the A. G. A. Approval Requirements Committee and its subcommittees



G. W. Allen



H. E. G. Watson

which formulate and keep up to date the requirements under which appliances are tested. Service rendered by H. E. G. Watson, The Consumers' Gas Co. of Toronto, merits special attention. He served on the main committee and some of the subcommittees for many years. Mr. Watson was chairman of the Canadian committee which recommended affiliation with the Laboratories and helped to draw up the agreement. He retired from active participation in requirements committee work in 1948 after long and faithful service. His associate, J. A. Morrison, was appointed to succeed him.

Much of the credit for success of the Canadian plan and for the excellent cooperation with the Laboratories belongs to George W. Allen, executive secretary and treasurer of Canadian Gas Association and director of its Laboratory Approval Extension Division. R. M. Conner, for many years director of the A. G. A. Laboratories, negotiated the agreement with the Canadian Gas Association. He states that Mr. Allen down through the years never missed an opportunity to promote the sale of approved appliances and constantly urged utilities and dealers to accept and install only such equipment. In the pages of the *Canadian Gas Journal* he persistently editorialized on the subject and pointed out the benefits of the approval plan.

"George was always campaigning for approved appliances and accessories and keeping after everyone he contacted," Mr. Conner states. "He really is entitled to some kind of medal, for the success of the Canadian plan is in all reality the success of George's efforts."

American manufacturers interested in obtaining Canadian approval for gas appliances and accessories can obtain full information from the Canadian Gas Association, Toronto, Ontario.

Self-regulation in the public interest

THE MOST widespread program of industry regulation in the consumers' interest now in existence on the North American continent. That is what Howard B. Noyes, vice-president, Washington Gas Light Co., Washington, D. C., called the standardization and appliance-testing program of the gas utility industry. He spoke at a "Consumer Clinic" on standards during the National Standardization Conference in New York sponsored in November by American Standards Association.

About 95 percent of the gas appliance manufacturers in the U.S., he said, are constructing their equipment to conform to the

standards of American Gas Association. He added that there are now more than 30,000 different types of certified domestic gas appliances available for customer selection.

Mr. Noyes declared that much of the success of the A. G. A. appliance and installation approval program is the result of the work of the A. G. A. Approval Requirements Committee, which is a sectional committee of American Standards Association. This committee is made up of men from the utility industry, the gas appliance manufacturing industry, and representatives from general interest groups.

Application of the certification program, he said, has resulted in an increasing amount of standardization of gas appliance manufacturing processes, and this, in turn, has greatly benefitted the consumer. As evidence, Mr. Noyes cited the fact that a modern all-enameled gas range equipped with oven and broiler thermostatic control and automatic burner ignition can now be purchased for about the same price as a similarly sized model of 25 years ago which was only partly enameled and had none of the modern control devices.

IGT accepting fellowship applications

APPLICATIONS for 15 fellowships leading to degrees of master of gas technology and doctor of philosophy are being accepted by Institute of Gas Technology, Chicago.

The fellowships provide an award of \$1,250 and tuition for each of the first two years. This remuneration is tax free. Additionally, summer employment is provided with sponsoring companies to give fellows the advantages of practical field work and additional income.

Applications may be made by seniors and graduates of accredited colleges and universities in chemistry, chemical engineering, mechanical engineering, petroleum engineering, or related fields. Applicants must rank in the upper fifth of their class. They must also be American citizens under 28 years of age who have shown adaptability, cooperation, and high moral character.

All applications and requests for information should be addressed to The Director, Institute of Gas Technology, Technology Center, Chicago 16, Illinois, and must be submitted before March 15, 1951.

Candidates for master's degrees will be required to complete courses in production, distribution and utilization of manufactured and natural gas, business organization, labor relations, and public utility regulation. Additional requirements are selected courses in chemistry, physics, mathematics, and chemical or mechanical engineering, two summer employment periods, and a thesis in gas technology.

Gas companies throughout the country cooperate with the Institute's educational program by providing summer employment for students. Students are usually able to obtain industrial experience in any section of the

country desired.

Graduating fellows are aided in obtaining employment by distribution of brochures containing personal and academic data, pictures, and statements on location and work preference. The Institute assumes the responsibility of aiding its graduates to find the best employment possible.

IGT was established in 1941 by a group of gas industry executives as an independent non-profit research and educational corporation. Its prime purposes are to serve directly the utility gas industry by educating promising young men at the graduate level specifically for the gas industry. It accomplishes this by prosecuting fundamental and applied research for the gas industry, by collecting and disseminating scientific information, and by stimulating and correlating research within the industry.

Space heating in Ohio and the Korean war

THE KOREAN war's effect on the gas industry is still largely unanswered. However, the experience of The East Ohio Gas Company in Cleveland is a dramatic example of what has happened in at least one area as far as the heating load is concerned.

In May 1950, East Ohio reported to the Public Utilities Commission that it anticipated adding a total of about 55,000 space-heating customers during the year. This estimate was on experience during the last half of 1949 and the first four months of 1950 during which the company received between four and five thousand space-heating applications a month.

Then, late in June 1950, the North Koreans marched. Immediately after, space-heating applications began to rise from the rate of 1,000 or 1,200 a week to 1,500, then to 2,000, even to 2,700 a week. During the third week of August, applications hit a new high of over 4,000.

This situation was experienced by practically all of the natural gas companies in Ohio. As a result, on September 12, 1950 the Public Utilities Commission of Ohio issued its seventh supplemental emergency order restricting use of gas for space heating. By that time, East Ohio had received more than 62,000 applications for use of gas since January 1,

1950, compared with the anticipated total of 55,000 for the entire year. The new additions give East Ohio a space-heating saturation of approximately 60 percent.

According to J French Robinson, president of East Ohio, "the Korean war situation and the resulting fear of the imposition of priorities and controls no doubt had a great deal to do with the acceleration in the demand for gas for space heating. Nevertheless," he explained, "the demand is based on the fact that the cost of gas for space heating is so much less than that of any other fuel available in our area."

Executive Board holds year-end meeting



A. G. A. Executive Board members at luncheon session during December 6 meeting in New York (around outside of table, left to right): T. Weir, George H. Smith, E. G. Boyer, F. A. Lydecker, Edward F. Barrett, treasurer; W. Reed Morris, Harry K. Wrench, reporter, James O'Malley, Jr., Kurwin R. Boyes, C. E. Bennett, vice-president; D. A. Hulcy, president; H. Carl Wolf, George F. Mitchell, vice-president; J. French Robinson, Henry Fink, Hugh H. Cuthrell, immediate past-president; Stanley H. Hobson, F. O. Hess, H. Leigh Whitelaw, Frank C. Smith, A. M. Beebe, A. W. Conover, Robert A. Hornby; (around inside of table): Allyn C. Taylor, R. Van Vliet, C. J. Allen, Alan A. Cullman, J. L. Haley, L. B. Bonnett, C. H. Lekberg, E. J. Boothby, Robert W. Otto, Carl H. Horne, R. G. Taber, Dean H. Mitchell, N. B. Bertolette, John W. West, Jr., Lyle C. Harvey. Board considered regular business and A. G. A. defense activities

Gas applications ready to spur defense drive

THE GAS INDUSTRY stands ready to meet increasing demands made upon it by stepped-up national defense program.

Prior to World War II, there was a period of continuous research and development in industrial gas combustion and industrial gas equipment that reached a high point in production efficiency by 1941. When industrial America was called upon to supply war materials, these developments in the gas field made possible the high production rates where heat was necessary. Quickly put to practical use for arms production were the continuous automatic gas-fired carburizing furnaces in which millions of gears and other parts for jeeps, peeps, tanks and other items were produced by the highly organized automotive industry.

Other applications, which had only just gone through their development stage, were more efficient gas-fired forge furnaces. It was this type of equipment in which billets were heated for shell forgings. The radiant tube had been devised, thus making the prepared atmosphere furnace a practical production line tool. Use of magnesium in aircraft production was facilitated through the use of gas-fired stills producing pure metal. All these processes and techniques would eventually have reached their peak of perfection, but the war effort speeded their adoption and perfection.

What new processes are now in the research laboratories or on the drawing boards awaiting a pioneer to apply them to defense production?

A start already has been made on carbonitriding in gas-fired controlled atmosphere furnaces. This process may well supplant the hot cyanide bath. The principle of detonation combustion whereby the heat release is increased a thousand fold over conventional

combustion rates may find a ready application to speed up production.

New techniques no doubt will be found for heat applications in a wide range of industries supplying armament and allied material. Heat treating in all its phases lends itself to efficient gas heating. The many products in the ceramics and glass fields find gas the ideal fuel for production and finishing. This is especially true of the many processes required in the manufacture of a picture tube and radar equipment for which radiant gas heating has recently become accepted as giving the best results. Forming of plastics which find wide usage in electronic equipment and airplanes utilizes gas heat in their processing.

In the metalworking field, basic steel mills use gas for a wide variety of purposes. The time required for malleabilizing has been reduced 110 hours; far better metal has been obtained in gas-fired non-ferrous melters. With the development of highly efficient gas-fired convection ovens and furnaces, a great many finishing operations have been speeded and a more uniform product has resulted.

For every item needed in our armament program there is a specialized piece of industrial gas equipment to speed production. Together with the collective intelligence of scientists and engineers the gas industry stands ready to make its contribution to the demands of American manufacturers for their fuel needs.

EXPANSION OF INDUSTRIAL GAS SALES REQUIRED TO MEET GENERAL INDUSTRIAL GROWTH

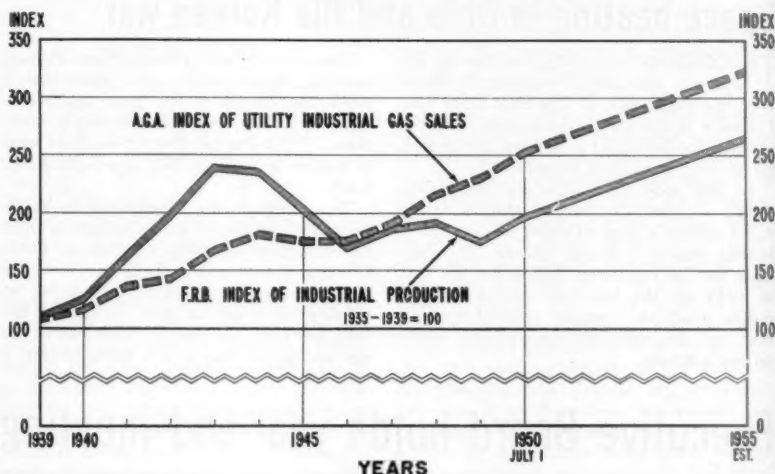


Chart prepared by A. G. A. Bureau of Statistics.

Natural gas topic for NEGA home service group

A GLIMPSE of "New Life With Natural Gas" was offered to members of The New England Gas Association's Home Service Group at their annual conference on November 6. About 80 members and guests attended the all-day session in Boston.

Dorothy Keller, conference chairman, presided at the morning session, and introduced John A. Hiller, Portland Gas Light Co., president of NEGA, who briefly reviewed "Gas Industry Trends and Developments."

In "What Natural Gas Will Mean to Our Companies," Paul R. Taylor, vice-president, Stone and Webster Service Corp., New York, discussed the changes that will take place after approval to pipe natural gas to New England has been obtained. Mr. Taylor suggested that arrival of natural gas will reduce production costs and assure a proper rate of return. He predicted a larger volume of new business in house heating and water heating.

Davis M. DeBard, vice-president in charge of sales, Stone and Webster Service Corp.,

New York, spoke on "More Appliance Sales with Natural Gas." Citing the growth of other communities after the advent of natural gas, he pointed out that many new industries will be attracted to New England towns by the reasonable rates charged for natural gas. He predicted a rejuvenation of the gas industry in the next decade.

Ruth Sheldon, home service director, Washington Gas Light Co., continued the discussion with "How Natural Gas Will Affect Home Service." She discussed post-conversion problems in Washington, and told how home service helped customers adjust their cooking methods to the hotter, natural gas flame. She explained that instructions are especially important in using percolators, pressure cookers and waterless cookers.

The afternoon session was devoted to "Successful Case Histories." Donald R. Schively, The Hartford Gas Co., chairman, NEGA sales division, reminded the home service representatives of their responsibility to tell the public of the modern beauty, efficiency and newest

features of gas ranges. Arthur W. Newman, Glenwood Range Co., discussed "Television and Home Service." He cited that TV advertising is now a necessity, and outlined opportunities and techniques for home service in television. He called home service the public relations branch of the sales department.

Irene L. Muntz, home service director, Rochester Gas & Electric Corp., related how a regular promotion, "Herb Cookery," developed into an interesting demonstration and exhibit in conjunction with the Natural Museum of Rochester and other interested agencies. Flora G. Dowler, home service supervisor, The Manufacturers Light and Heat Co., spoke about "Junior and Senior High School Groups." Mrs. Eleanor V. Wiese, Public Service Electric & Gas Co., Newark, gave a report of her work with brides' classes. Ella Heyne, home service director, Northampton Gas Light Co., and chairman of the home service group, presided at the afternoon meeting.

The home service executive committee set the date of the 1951 annual home service luncheon as March 30, 1951.

IGT dedicates new building to industry service

● Following are excerpts from an address by Frank C. Smith, president, Houston Natural Gas Corp., at the dedication of the new Institute of Gas Technology building in Chicago on November 2, 1950. Mr. Smith was the first chairman of the board, Institute of Gas Technology.

THE report made at the annual meeting two years ago stated, in part:

"The Institute, organized and incorporated under the laws of the State of Illinois in June, 1941, and affiliated with the Illinois Institute of Technology, was established as an educational and research non-profit organization, supported by contributions of its associated members, and having 22 Trustees (now 28), selected from persons designated by the member companies and from the Illinois Institute of Technology, including its President. The purposes of the Institute were announced, and remain:

- (1) Training of men for the industry; (2) research—fundamental and applied—in behalf of the gas industry; (3) collection and dissemination of scientific information; and (4) research within the industry."

"The educational function envisaged a selected graduate student body of 15 students in each yearly class, the several classes to pursue graduate studies under a qualified faculty of scientist-teachers, leading to the Master's degree in two years and the Doctorate in four, such degrees to be conferred by the Illinois Institute of Technology."

To date, some 76 young men have received education and training in the Institute on its fellowships; 19 Master's degrees have been conferred; two have received the Doctorate; and our present student body numbers 31. Many of those who left their work here to enter military service did not return.

The initial fellowship grant of 1941 was \$75 a month. The fellowship is now \$125 a month—third-year men receiving \$145 and fourth year men \$165. Our present faculty includes 15 teachers in full-time employment and 15 others devoting part time. In addition, there are 22 technical and 19 administrative and non-technical personnel on the staff. Over the years our faculty and staff have comprised a total of 240 members, some full-time and some borrowed from the Illinois Institute of Technology.

As to research, we have undertaken altogether 20 projects, termed fundamental research, deemed of basic interest to the gas industry and financed from the Institute's own funds. Of these, some have been completed, others abandoned. Nine are now in process, including the six reported here two years ago. The three additional basic research projects are:

- (1) Burning velocities of single and multiple component mixtures;
- (2) Viscosity of natural gas at high pressures; and
- (3) Permeability of natural gas sands.

All of the nine current basic research projects have been initiated and are periodically reviewed by advisory committees from both the natural and manufactured gas sectors of the industry.

As to sponsored research, the Institute has undertaken and completed 70 projects. Of these, the American Gas Association has entrusted to the Institute 31 projects, some of a fundamental nature and some in applied research. This work is done at a lower schedule of rates than comparable work undertaken for other sponsors, and has amounted up to August 31 of this year to a total cost of \$1,152,000, with an additional \$280,000 on ten proj-

ects now committed. The Institute also has in hand another sponsored project at estimated cost of \$50,000, and anticipates total sponsored research on 11 projects in 1951 aggregating \$350,000.

The Institute's principal services continue to be rendered in behalf of the American Gas Association's sponsored projects, assigned by its General Research Planning Committee and financed from its special research funds. Thereby, the Institute's main activity is in behalf of the gas industry of our country, both in education and research. It was for these purposes exactly that it was formed. The beginnings of 1941 have, in these nine years, snowballed to respectable totals in money and to a vast volume of scientific research and education. Much, and perhaps most of this would not have been done had not this institution been created to serve those exact purposes.

Practically all the funds provided for the construction of this building have been contributed by members of the gas industry, some not members of this Institute, along with, but not as part of, their contributions to this same PAR fund during each of the past three years. Almost universal support was given through this avenue, without special solicitation. Just as the American Gas Association was created and exists to serve the gas industry, so was this Institute created and activated for the same purpose.

Acknowledgement should be, and is here made of the great service the American Gas Association has rendered to the Institute of Gas Technology. It is a two-way street that connects these institutions, these servants of the same industry. The free flow of communication, of interest, of service, between the two, must, and I believe will be uninterrupted.

To this ideal of service, and to our industry's need, we dedicate this building.

Southwestern Gas Short Course announced

ALL PHASES of gas measurement work including gas accounting, metering, pressure regulation and instrumentation, will be covered at the twenty-sixth annual Southwestern Gas Measurement Short Course. Plans for the sessions at University of Oklahoma, Norman, Okla., April 10-12, 1951, were completed at a recent meeting of the general and executive committees.

A feature of the course will be a special exhibit by thirty odd firms of equipment used in the measurement and regulation of natural gas. Leading authorities on the application, installation, servicing and maintenance of this type of equipment have been invited to conduct the classroom sessions and give individual instruction.

This year's program will be under the direction of James L. Griffin, Northern Natural Gas Co., Omaha. Ben F. Worley, United Gas Corp., chairman of the general committee, presided at the planning session. The executive committee was represented by Chairman W. H. Carson, dean, College of Engineering, The University of Oklahoma; R. M. Scofield, Lone Star Gas Co., Dallas, Texas, and W. H. Woods, Gulf Oil Corporation.

Several new members have been elected to the general committee. Gordon B. Gudger, Gulf Refining Co.; Houston, represents the South Texas area, replacing W. H. Woods, who served as general chairman of the 1950 Short Course. Mr. Woods is now a member of

the executive committee. Other new members are C. A. Breitung, gas supervisor, Railroad Commission of Texas, and Elmer Capshaw, gas engineer, Oklahoma Corporation Commission, representing two of the commissions which are sponsors of the course.



General and executive committees planning 1951 Southwestern Gas Measurement Short Course: (Front row, left to right) T. S. Whitis, James L. Griffin, Ben F. Worley, W. H. Carson, R. O. Cox; (middle row) Roy S. Peace, Jr., Walter A. Brewster, R. R. Suttle, W. H. Woods, R. M. Scofield, K. R. Tibbets, E. L. Stark; (rear row) T. J. Kirkpatrick, Dean Bruce, George E. Greiner, M. D. Gilbert, J. H. Satterwhite, George H. Smith, Charles A. Breitung. Sessions will be held at University of Oklahoma, April 10-12

"Sectional" range developed by gas industry

A SIGNIFICANT new development in the gas appliance field—built-in cooking units which enable home owners to install their ranges in any part of the kitchen and at any height—have been developed by two leading gas appliance manufacturers.

One of these, Western Stove Co., Inc., Culver City, Calif., gave the world premiere of its automatic custom built-in gas cooking unit during the 1950 A.G.A. Convention in Atlantic City. The second firm, Chambers Corp., Shelbyville, Ind., introduced its complete line of built-in gas cooking units at a special press showing in New York City last month.

The Western Stove Company exhibit in Atlantic City featured an extra large automatic gas oven and smokeless pull-out broiler unit which can be installed at waist height or lower as the homemaker desires. Top burner cooking units can be installed in any part of the kitchen, not necessarily next to the oven or broiler, and at the location which saves most steps and time.

Also exhibited by this company was a completely new feature—automatic clock control for one of the top burners. This important new development can mean new freedom for the housewife on top burner cooking. It will allow her to bring a pot of stew to a boil, turn the valve to simmer, set the automatic clock and then do anything else she likes.

Another interesting innovation developed by Western Stove, is a "CP" gas range equipped with a modern seven-inch television screen built into the backguard. This is believed to be another first for the gas industry. It should prove particularly helpful to homemakers who desire to carry out recipe directions while cooking programs are on the air.



Western Stove Company's Atlantic City demonstration of new sectional gas range units which can be placed anywhere in the kitchen. Shown above are an automatic gas oven (right) and top burners (left)

The company also exhibited an electric outlet (on the range) connected and operated by the same cooking clock that controls the automatic oven.

Chambers Corporation unveiled an oven which can be built into a kitchen wall or incorporated as part of a kitchen cabinet arrangement. Also displayed was an in-a-top three-burner unit, completely detached from the oven. In addition, this firm is contemplating

production of an on-a-top four-burner unit to fit on a 24-inch wide cabinet, making possible counter level, waist high cooking.

Development of the new "sectional" gas range by these two firms has been hailed as a major achievement in industry circles. They will provide unlimited arrangement possibilities attractive to small home and apartment dwellers, as well as to persons living in spacious surroundings.

Natural gas employed in zinc pilot plant

USE of natural gas in efforts to improve a centuries-old zinc smelting method is described in a new Bureau of Mines publication. The report is based on a series of 28 zinc smelting runs at the Bureau's zinc pilot plant at the Rolla, Mo., Experimental Station.

The report covers the direct use of natural gas both as a fuel and an effective reducing agent. It also shows how the process permits use of very low grade and therefore more plentiful ores.

Using methane (natural gas) as the reduc-

ing agent, Bureau metallurgists produced about 2,600 pounds of zinc during experimental runs over a period of about three years. Construction of the pilot plant was based on data obtained in the Bureau's successful development of a laboratory process for reducing zinc oxide with methane.

In the most successful run at the pilot plant, one of six days, 495 pounds of zinc were tapped from the condenser section and 125 additional pounds were recovered from the exit gas cyclone. The yield was an average

daily production of more than 103 pounds.

Although considered only partially successful, the pilot plant operation offers experimental data useful to industry and points out some difficulties in developing zinc smelting methods using methane.

A free copy of Report of Investigations 4730, "Operation of Pilot Plant for Reducing Zinc Concentrates With Methane Gas," can be obtained from the Bureau of Mines, Publications Distribution Section, 4800 Forbes Street, Pittsburgh 13.

Houston Natural makes extensive gains

FEW GAS UTILITIES can match the record growth of Houston Natural Gas Corporation during the last four years. A reflection of the vigorous development of the Texas Gulf Coast, this growth is described in one of the first 1950 gas company reports to reach A. G. A. MONTHLY.

A substantial 12 percent gain in gas consumers was made by Houston Natural in the 1950 fiscal year—133,550 industrial, residential and commercial accounts were billed at the peak period. This is focused against a 73 percent increase in customers since 1945; a 174 percent gain since 1940.

Gross revenues in 1950 were the largest in the corporation's history, despite an abnormally warm winter season. However, operating expenses, taxes and other costs climbed so rapidly that net earnings were the lowest since 1945.

The company's distribution and transmission systems, extended at an unprecedented rate during the last fiscal year, now measure 2,663 miles. This network of underground pipe, although confined within a 20-county area, would extend from Houston to Ketchikan, Alaska, if laid end-to-end in a straight line.

Popularity of all-year gas air conditioning in Houston, known as the "most thoroughly air-conditioned city in the nation," continued to offer the company exceptional opportunities for load building. Since the end of World War II, some 100,000 tons of air conditioning equipment has been installed in the city.

There are now 350 gas appliance dealers and merchants in the company's system outside Houston who participated in Houston Natural's well-established dealer cooperation sales program. In 15 years, these cooperating dealers have sold over \$10 million worth of modern gas appliances for their own profit.

Accounting

(Continued from page 26)

its program on standard packaging. A special subcommittee has been appointed to work with a General Accounting Committee subcommittee on accounting techniques as applied to stores.

● **Taxation Accounting Committee**—"A Day of Taxes" will be an open meeting at the 1951 Spring Conference, at which time any delegates interested in taxes can get together with this committee for discussion of current problems. The session will be keynoted by a speaker from the Commerce Clearing House in Chicago. A closed meeting of the committee will be held in Houston, Texas, on February 12 and 13, 1951. At this meeting, plans will be made for participation in the A.G.A. Convention.

Together with the standing committees, the following special committees will function during the year. Classification of Accounts Committee under chairmanship of H. B. Hardwick, Consumers Power Co., Jackson, Mich., in joint action with Edison Electric Institute, will work with NARUC on the development of the revised electric classification. Accounting Developments Committee will continue to issue its valuable information service under the A.G.A. chairmanship of J. C. Messer, The Peoples Gas Light & Coke Co., Chicago. The Compendium Committee will be reinstated to bring that report up to date.

A special committee will be appointed to study electronic developments as they might affect accounting in the utility industry, and to work with manufacturers of electronic equipment to define requirements. This committee is being organized as the direct result of a stimulating discussion at the Managing Committee meeting at Hot Springs, Virginia on November 16. The Accounting Division of the Edison Electric Institute will be invited to join in this study.

A "dress rehearsal" meeting of the various project committees and standing committees will be held in Cincinnati on February 15 and 16, 1951. At that time, the program for the Joint Spring Conference in Chicago, April 23-25, 1951 will be formulated.

It looks like a profitable year. The Section's officers are confident that when the final balance sheet is prepared, gas industry accountants will be well satisfied with the "profits" they have received from the Accounting Section in 1951.

Question—cubic foot or therm rates?

DURING the past year numerous inquiries have been received at American Gas Association headquarters on the subject of cubic foot versus therm rates. Current procedure, state by state, is indicated in a special survey of Domestic Gas Rates, reprinted on the following page from the A. G. A. Rate Service, June 1950. The survey was made by Robert M. Keeney, rate engineer, The Connecticut

Light & Power Co., a member of the Association's Rate Committee.

A glance at the accompanying chart clearly shows that most companies are using the cubic foot basis for domestic gas sales. However, the increasing tendency of manufactured gas companies to convert to natural gas or mixed gas operations has focused industrywide attention on the possibilities of use of the therm.

SURVEY OF DOMESTIC GAS RATES
CUBIC FOOT AND THERM RATES IN A. G. A. RATE SERVICE, JUNE 1950

	NATURAL GAS			MANUFACTURED GAS			LP-GAS		
	No. Companies	Type of Domestic Rate		No. Companies	Type of Domestic Rate		No. Companies	Type of Domestic Rate	
		Cu. Ft.	Therm		Cu. Ft.	Therm		Cu. Ft.	Therm
Alabama	5	5	—	1	1	—	5	4	1
Arizona	9	5	3	1	1	—	1	1	—
Arkansas	8	8	—	—	—	—	—	—	—
California	8	8	—	—	—	—	4	3	1
Colorado	9	9	—	1	1	—	2	2	—
Connecticut	—	—	—	12	12	—	2	1	1
District of Columbia	1	—	1	—	—	—	—	—	—
Delaware	—	—	—	2	2	—	3	1	2
Florida	1	1	—	15	15	—	5	4	1
Georgia	2	2	—	4	3	1	5	4	1
Idaho	—	—	—	—	—	—	1	—	1
Illinois	26	7	19	2	1	1	8	2	6
Indiana	26	26	—	6	6	—	3	3	—
Iowa	15	10	5	8	7	1	7	4	3
Kansas	41	41	—	—	—	—	—	—	—
Kentucky	23	23	—	1	1	—	1	—	1
Louisiana	21	21	—	—	—	—	—	—	—
Maine	—	—	—	5	5	—	2	1	1
Maryland	4	3	1	4	4	—	3	3	—
Massachusetts	—	—	—	43	43	—	3	3	—
Michigan	8	8	—	5	5	—	8	8	—
Minnesota	12	12	—	4	4	—	10	10	—
Mississippi	9	9	—	—	—	—	—	—	—
Missouri	19	18	1	—	—	—	3	2	1
Montana	9	9	—	—	—	—	1	1	—
Nebraska	15	14	1	1	—	1	2	2	—
Nevada	—	—	—	—	—	—	2	1	1
New Hampshire	—	—	—	4	—	4	2	—	2
New Jersey	2	—	2	8	8	—	3	1	2
New Mexico	9	9	—	—	—	—	3	1	2
New York	26	26	—	15	15	—	4	4	—
North Carolina	—	—	—	4	4	—	9	8	1
North Dakota	1	1	—	1	1	—	4	4	—
Ohio	45	44	1	4	4	—	—	—	—
Oklahoma	69	69	—	—	—	—	—	—	—
Oregon	—	—	—	2	2	—	7	2	5
Pennsylvania	45	40	5	24	24	—	18	—	18
Rhode Island	—	—	—	5	5	—	—	—	—
South Carolina	—	—	—	5	5	—	7	4	3
South Dakota	5	4	1	2	—	2	3	2	1
Tennessee	5	4	1	2	1	1	4	—	4
Texas	71	71	—	—	—	—	1	1	—
Utah	1	1	—	—	—	—	—	—	—
Vermont	—	—	—	3	3	—	3	—	3
Virginia	3	2	1	8	8	—	6	4	2
Washington	—	—	—	4	3	1	12	9	3
West Virginia	25	25	—	1	1	—	2	—	2
Wisconsin	6	4	2	5	5	—	14	13	1
Wyoming	9	9	—	—	—	—	—	—	—
	593	549	44	212	200	12	183	113	70
Percent		93%	7%		94%	5%		62%	38%

Note: Companies supplying more than one kind of gas are repeated in "No. Companies" column. Mixed gas is included in natural gas.

Wisconsin men cover natural gas service

ARNOLD G. BUR, Wisconsin Public Service Corp., was elected chairman of the Sales and Service Section, Gas Division of Wisconsin Utilities Association in November. John C. Bolender, Milwaukee Gas Light Co., was elected chairman of the Technical Division of the Gas Section.

The following two vice-chairmen of the gas divisions were elected during the meetings: Sales and Service Section—J. H. Mikula, Milwaukee Gas Light Co.; Technical Division—Albert Smith, Northern States Power Company.

Speakers at the combined convention of the gas and electric sessions examined various methods of providing customers with more efficient natural gas service. Some 568 delegates attended, a new record.

C. B. Boulet, Wisconsin Public Service Corp., discussed ingredients needed for a successful safety program. Another guest speaker, Jessie McQueen, home service counsellor for American Gas Association, called for every department in each company to use home service more effectively.

Four round-table conferences on November

8 saw Wisconsin gas company engineers detail their experiences with natural gas during the first year of service. Engineers from neighboring states, which have had natural gas for several years, provided additional information. Other independent and joint sessions were held on Wednesday, Thursday, and Friday.

Conferences covered experience with odorization, emergency pipeline repair methods, gas station metering and calculations, service complaints, use of leak detectors, job training, meter test and repair policies.

Conducting the conferences were: Deane True, Milwaukee Gas Light Co.; John Schutt, Madison Gas & Electric Co.; H. F. Kolb, Wisconsin (Waukesha) Natural Gas Co., and William Gehr, Wisconsin Public Service Corporation.

G. G. Ellerbrock, chairman of the Gas Technical Division, set the theme by declaring, "We are entering a new era, one in which, based on experiences elsewhere, we can expect a rapid expansion in the sale of our product (natural gas) and improvement in earnings. . . . We will be faced with many new and

difficult problems whose solution will require ingenuity and hard work," he added.

Irving K. Peck, vice-president and general manager, The Manufacturers Light and Heat and Associated Companies, Pittsburgh, warned that natural gas is not a cure-all for manufactured gas ailments. He declared that all of the competitive forces are still there, and gas men must work hard to receive the benefits of the new product.

At other sessions for gas men, John C. Taylor, Michigan Consolidated Gas Co., presented an analysis of two of the most feasible methods of reinforcing a distribution system to meet growing space heating demands. V. F. Bittner covered the installation of meters and regulators for industrial consumers with loads varying from five to 15 Mcf per hour as practiced by The Peoples Gas Light & Coke Co., Chicago.

A. W. Kwapiel covered the experience and policies of 18 natural gas distributing utilities in 15 states on meter and regulator test and repair policies.

McNally heads new PAR Plan project

AMERICAN GAS ASSOCIATION has initiated a new project in the New York area to insure that all gas appliances in test kitchens of food companies, magazines, newspapers, schools and colleges are kept at top efficiency. An additional objective of the project is to speed the replacement of obsolete models in these test kitchens.

This new activity is an integral part of the gas industry's continuing effort to keep gas service and gas appliances in a top competitive position. It is designed to equip with the most modern and efficient gas appliances those organizations in the New York area which help to influence consumer purchases.

Under an agreement with The Brooklyn Union Gas Co., James J. McNally has joined A.G.A. for about a year to conduct this new work. Mr. McNally is a member of the publicity and advertising department at Brooklyn Union, and a former member of that company's customers service department.

Changeover subject of New York council

DESPITE its many advantages, natural gas will have to be sold vigorously and intelligently. This was one of several important points in connection with gas house heating and changeover which were brought out at the fifteenth annual meeting of Metropolitan Gas Heating and Air Conditioning Council in New York last month.

C. E. Bennett, second vice-president of American Gas Association, and president, The Manufacturers Light and Heat Co., Pittsburgh, told his audience that natural gas probably will offer many solutions to utility prob-

lems. He emphasized, however, that its arrival will demand careful planning and a gradual orderly development to maintain balance between supply and demand.

Another speaker, Harry B. Wilson, commercial sales manager, The Brooklyn Union Gas Co., showed that volume water heating and fringe heating can play an important part in leveling the valleys between peak demand. One company's successful approach to the water heating load was detailed by A. G. Bur, sales manager, Wisconsin Public Service Corp., Green Bay, Wisconsin.

R. S. Bruns, Jr., vice-president, Transcontinental Gas Pipe Line Corp., discussed methods to increase natural gas deliveries to the metropolitan area. These included additional crossings of the Hudson River and a thorough investigation of underground storage possibilities.

Availability of equipment and other challenges in the gas house heating field were covered by E. A. Norman, Jr., president, Norman Products Corporation. E. L. Vervoort, supervisor, house heating group, The Brooklyn Union Gas Co., presided at the meeting.

Baltimore wins community service award

A NATIONWIDE AWARD has been won by Consolidated Gas Electric Light & Power Co. of Baltimore for promotion of new industries in the area it serves. The plaque and certificate of achievement are presented annually by American Public Relations Association in recognition of exceptional com-

munity service.

The 1950 award was made for a series of television-radio programs "Industry Looks at Baltimore's Opportunities," produced by the company in cooperation with local industries. When completed, the series was reproduced in magazine form and distributed to manu-

facturers, location engineering firms, educational and financial institutions throughout the United States. Baltimore Association of Commerce is using the material as part of its program for bringing new industries to the Baltimore area.

Consolidated Edison honors heroism

CONSOLIDATED EDISON Co. of New York, Inc., has awarded its meritorious service certificate to 34 system employees for quick thinking and unusual heroism. This brings to 1,052 the number of such presenta-

tions since the company's award plan was established in 1926.

Meritorious service certificates are presented for saving life, protecting property or other personal deeds beyond the normal re-

quirements of the employee's job. Current citations were for rescue from drowning, fire, and motor vehicle accidents, successful resuscitation of persons overcome by gas.

Otto heads A. G. A. Convention Committee

ROBERT W. OTTO, president, Laclede Gas Co., St. Louis, Mo., has been appointed chairman of American Gas Association's General Convention Committee. Getting off to a fast start on planning for the 1951 A.G.A. Convention in St. Louis, October 15-18 inclusive, Mr. Otto has scheduled the first meeting of his committee for January.

Working with Mr. Otto are the following committee members: R. R. Blackburn, vice-president and secretary, Southern California Gas Co.; Joseph Bowes, president, Oklahoma Natural Gas Co.; Dudley B. W. Brown, executive vice-president, Milwaukee Gas Light Co.; A. W. Conover, president, Equitable Gas Co., Pittsburgh; John A. Fry, president, Detroit Michigan Stove Co.; J. F. Merriam, president, Northern Natural Gas Co., Omaha, Neb.; F. X. Mettenet, vice-president, The Peoples Gas Light and Coke Co., Chicago; J. J.

Quinn, vice-president, Boston Consolidated Gas Co., and George E. Whitwell, vice-president, Philadelphia Electric Company.

The January committee meeting in St. Louis will develop working plans for the Convention. Details to be decided will include plans for making hotel reservations which will make full and equitable use of available facilities. A schedule of time and place for general, departmental, sectional and other meetings will be arranged so as to avoid conflicts. Approval of tentative entertainment plans, and arrangement of programs for the general sessions will be discussed.

Consideration will be given to continuing the advance registration plan which, in its expanded form, proved successful at the 1950 Convention. Preparation of a convention budget to be approved by proper authorities of the Association is another important task of

the General Convention Committee.

Mr. Otto, a director of A. G. A., has pledged full cooperation of Laclede Gas Company in helping to make the 1951 Convention successful. To this end he has appointed a local committee to assist actively in the planning and conduct of the Convention. This local committee is comprised of the following executives of Laclede Gas Company: George Shields, chairman; Henry A. Eddins, Lovett C. Peters, Alfred Hirsh, Munroe Roberts and Raymond J. Vandagriff.



R. W. Otto

Personal
and
otherwise

Orning takes gas post with chemical society

DR. ARTHUR A. ORNING, Carnegie Institute of Technology, has been elected chairman of American Chemical Society's Division of Gas and Fuel Chemistry. He will take office January 1, succeeding Dr. R. E. Brewer, chemical engineer with U. S. Bureau of Mines in Pittsburgh.

Dr. John Farley Foster of Battelle Memorial Institute, Columbus, Ohio, was named chairman-elect, and Professor H. Beecher Charnbury of Pennsylvania State College was

reelected secretary.

Dr. Orning has been closely associated with the Gas Production Research Committee, American Gas Association, since that committee's inception some six years ago. He was graduated from Iowa State College in 1934. He received the M.S. and Sc.D. degrees at Carnegie Institute and joined the staff of the Institute's coal research laboratory in 1938. He served with Office of Scientific Research and Development during World War II.

Hall takes new post at Equitable Gas

JAMES B. HALL has been appointed manager of accident prevention for Equitable Gas Co., Pittsburgh, and affiliated gas and oil companies.

Mr. Hall will be responsible for the overall planning of Equitable Gas System's accident prevention program. In addition, he will supervise the administration of Workmen's Compensation in Pennsylvania and West Virginia and will be responsible for op-

eration of the companies' suggestion system.

Mr. Hall was graduated from West Virginia University in 1937, with a bachelor of arts degree in journalism. Since then he has supplemented this education with extension courses in natural gas and accident prevention.

Mr. Hall entered the employ of Equitable Gas Company in June 1937 as a cadet engineer. At the time of his present appointment, he

was serving as safety supervisor for the company's production and transportation department.

He is a member of the Executive Committee of the Public Utilities Section, National Safety Council.



J. B. Hall

King retires after long service with A.G.A.

AMERICAN GAS ASSOCIATION loses the services this month of one of its best known staff members. A. Gordon King, secretary of the Association's Manufactured Gas Department, Operating Section and Accident Prevention Committee, has been retired under the A.G.A. pension plan.

Mr. King joined A.G.A. on February 1, 1923 from the Pennsylvania Public Service Commission where for two years he had held the position of gas engineer. He had previously served as gas engineer for the Public Service Commission, Second District, State of New York.

His activities with the Association include field service work for member companies and lectures at educational institutions on technical matters pertaining to the gas industry. He has served as secretary of several A.G.A. general committees, including

Standards and Service, Rate Fundamentals, Aids in Aviation, Purging Gas Holders and Gas Works Apparatus. During World War II he was secretary of the A.G.A. Committee on National Defense. Since August 1940 Mr. King has been secretary of the Association's Technical Section, now the A.G.A. Operating Section.

In addition to his other duties, Mr. King has conducted the *Personnel Service* department which appears in each issue of the A.G.A. MONTHLY. This activity will be continued under the pattern established by Mr. King. He has also been active in amateur photography, taking numerous photographs at gas industry conventions and conferences.

Mr. King was trained and educated in England where he was first employed as a cadet engineer. He is the holder of numerous technical honors in gas manufacture and al-

lied subjects. He is also a member of the Institution of Gas Engineers and a licensed professional engineer in the State of New York.

Following gas company service in England, Canada and the United States, he served in the armed forces during World War I. Prior to being called to active duty he was with Consolidated Gas Co. of New York for more than four years as an assistant engineer. Upon discharge from the Army he joined a firm of industrial gas fuel engineers in New York.

J. Stanford Setchell will carry on Mr. King's work for the Operating Section as acting secretary. John W. West, Jr., assistant managing director of A.G.A., assumes the post of acting secretary, Manufactured Gas Department. Thomas J. Shanley, secretary, A.G.A. Accounting Committee, will work with the Accident Prevention Committee as acting secretary of that group.

Northern Natural elects five new officers

FIVE new officers have been elected for Northern Natural Gas Co. Omaha, Neb., as part of a program to further delegate authority and responsibility to key men in the company. The appointments include four newly created positions: a first vice-president, two vice-presidents, and an assistant to the president. All five men are members of American Gas Association.

Hiram J. Carson has been advanced to first vice-president from his position of vice-president in charge of operations. He will have increased executive and policy making responsibilities.

Mr. Carson has had a long career in the gas industry. Before joining Northern Natural in 1930 as chief engineer, he was operating head of a utility in Cedar Rapids, Iowa.

Mr. Carson attended Iowa State College where he received a degree in engineering. He has been active for many years in American Gas Association and other associations. He is past-president, Midwest Gas Association.

Joe T. Innis has been promoted to vice-president in charge of operations. He was formerly superintendent of operations. He will be in complete charge of the pipeline, compressor, dispatching, measurement, engineering and construction departments.



H. J. Carson



J. T. Innis



Larry Shomaker



J. M. Hanley



M. L. Mead

Mr. Innis joined Northern Natural in 1930, the first year of the company's life. In 1943, he was made general superintendent of operations.

Mr. Innis attended three universities: Kansas State, Oklahoma A & M, and Panhandle A & M.

Larry Shomaker has been elected vice-president in charge of sales. His previous position was superintendent of gas sales.

He also started with the company in 1930, later advancing to numerous other positions. Mr. Shomaker is a graduate of University of Wisconsin. He is first vice-president, Midwest Gas Association.

John M. Hanley has been named vice-president in charge of gas supply. He will handle all negotiations for obtaining additional supplies of gas and gas leases. He will also be responsible for drilling gas wells and exploration.

Mr. Hanley joined Northern Natural in

1933. He was promoted to head of the production department in 1942. During World War II, he served on a committee for the Petroleum Administration of War. Mr. Hanley is a graduate of Massachusetts Institute of Technology.

Myrven L. Mead, company rate engineer, has been elected assistant to the president with various administrative and executive duties.

Mr. Mead joined Northern Natural in 1931, shortly after graduation from University of Nebraska. His first job was distribution engineer. Since that time he has served in the construction, engineering, sales and rate departments.

Northern Natural's seven directors are: Farrar Newberry, Max Miller, John F. Merriam, current president, and Hiram J. Carson, all of Omaha; Burt R. Bay, retired president; Mark Adams, attorney, Wichita, Kan., and Guy Reed, Chicago.

Cassidy heads GAMA water heater group

A F. CASSIDY, manager of the water heater sales division, Rheem Manufacturing Co., New York, has been elected chairman of the Gas Water Heater Division, Gas Appliance Manufacturers Association.

The association has a membership of more

than 600 manufacturers. The division headed by Mr. Cassidy is one of the organization's most active units in nationwide sales projects.

Mr. Cassidy has been active in the gas industry for many years and has served Consolidated Edison Co. of New York, Inc.,

Gas Appliance Manufacturers Association, and Rheem Manufacturing Company. From 1943-1945 he was a member of the Army.

Mr. Cassidy succeeds Leland Feigel, Servel, Inc., as chairman.

Milwaukee Gas appoints two executives

TWO ELECTIONS of management personnel in Milwaukee Gas Light Company have been announced by the board of directors. Paul J. Imse, former treasurer, has been named vice-president and secretary. A veteran employee of 45 years experience with Milwaukee Gas Light, Mr. Imse was appointed assistant sec-

retary and assistant treasurer in 1940, and secretary and treasurer in 1948. He is a member of American Gas Association.

E. Gordon Black has succeeded Mr. Imse as treasurer. Mr. Black began his business career in Montreal where he served from 1932 to 1940 as a chartered accountant. In 1940 he

was named director of contract audits, British Air Commission. In 1943 he was called to duty in the United States Navy.

Mr. Black joined Milwaukee Gas Light after holding the position of assistant to the controller, Ingersoll-Rand Co., New York. He trained at Rice Institute and McGill University.

Niagara Mohawk announces two elections

DIRECTORS of Niagara Mohawk Power Corp., Syracuse, N. Y., have elected Dr. Jess H. Davis, Potsdam, N. Y., a member of the board to succeed the late Harry S. Lewis. Storrs M. Bishop, Albany, N. Y., has been elected an assistant secretary of the corporation.

Dr. Davis is president of Clarkson College of Technology and president, New York State Association of Engineering Colleges. He was graduated with a bachelor of science degree

from Ohio State University, from which he also received his master's degree. In 1949, the degree of doctor of science was awarded to him by St. Lawrence University.

Mr. Bishop was formerly resident manager for the Albany District. He was graduated from Union College with a bachelor of science degree and became associated with the operating department of Niagara Mohawk at Schenectady in 1926.



Dr. J. H. Davis



S. M. Bishop

Gas industry

(Continued from page 10)

a large addition to the Cleveland Laboratories. This action, following a similar expansion at the Pacific Coast branch, a year earlier, will place the Laboratories in a position to handle more efficiently the heavy volume of services they are called upon to provide.

Residential gas

During 1950, the Residential Gas Section, in cooperation with the General Promotion Planning Committee, the National Advertising Committee and the A.G.A. Promotional Bureau, conducted sales, promotional and advertising campaigns on all of the seven major domestic appliances. Each of these promotions, particularly the gas range "Spring Style Show" and "Old Stove Round Up" received excellent support from both gas utility companies and gas appliance manufacturers. They were important factors in achieving the record sales of gas appliances made last year.

Last year saw the completion of a series of effective handbooks or Sales Makers on all domestic gas appliances, sponsored by the appliance committees of the Section for use by gas company and dealer salesmen. These Sales Makers have been widely accepted by the industry.

The Gas House Heating Committee completed a pocket-size manual, "Guide for Installers of Gas Central Heating Systems, Conversion Burners, etc.," that has sold more than 17,500 copies and is in its second edition.

Home service

Home service departments of gas utility companies in the United States and Canada last year increased personnel by 20 percent to total 1,400 women, who made nearly ten million customer contacts last year. This contact work included calls in the home on equipment care and use, demonstrations of gas equipment in company and outside auditoriums and the answering of approximately 600,000 telephone calls.

Representatives in the home service departments of gas utilities last year cooperated with American Standards Association in the promotion of baking utensils meeting A.S.A. Standards. Sets of these standard utensils, made in uniform sizes, have been offered to the gas industry through the A.G.A. Promotion Bureau and now are being used by home

service representatives in gas range demonstrations. A new booklet of prize-winning gas range demonstrations was the result of a "CP" demonstration contest sponsored by the Home Service Committee.

Industrial and commercial

Industrial and commercial utilization of gas advanced in record-breaking volume last year. Industrial gas revenues advanced more than 20 percent and commercial gas revenues gained 10.5 percent. Combined revenues from industrial and commercial sales account for more than 39 percent of the total gas revenues.

World conditions caused a postponement of some of the promotional activities planned for the final quarter of the year, particularly in the field of commercial gas cooking. The Spring Sales Conference and the Commercial Cooking School were well supported. The Gas Industry Chain Contact Program proved very successful during 1950.

Accounting

The 1950 Conference of Utility Accountants in Louisville, Ky., in April was most successful. Registration was unusually large. The Accounting Section sponsored an illuminating talk on Social Security on one of the general session programs at the Annual Convention in Atlantic City. Newest developments in accounting procedure and methods were discussed at a luncheon meeting and at round-table conferences during the Convention.

A.G.A. Accounting Section cooperated with electric utility accountants in preparing material used in presenting the views of the gas and electric utilities concerning their treatment under any excess profits legislation that might be enacted.

Operating

The Operating Section conducted two successful conferences during 1950. A total of 1,500 members of the Association attending the Distribution, Motor Vehicles and Corrosion Conference in Detroit in April and the Production and Chemical Conference in May. The Section also presented a three-session program at the Annual Convention in Atlantic City. Operating problems were discussed in detail at each of these conferences and much valuable information was disseminated through prepared papers and symposiums.

Accident prevention

The industry's first National Conference on Safety was sponsored by the Accident Prevention Committee in Washington, D.C., last year with about 200 safety executives present. Certificates of award for reductions in frequency and severity rates were presented to companies which had reduced those rates more than 25 percent or more. The committee has carried on an active program of poster preparation, foremen's messages and other means of recommending safety procedures.

PAR Plan

With completion of the sixth year of the coordinated Promotion, Advertising and Research (PAR) Plan, the gas industry has contributed more than nine million dollars for the advancement of gas production and gas service. In 1950 more than ever before, complete coordination of all elements of the industry was achieved in carrying out objectives of the PAR Plan.

National advertising, sales promotional and research activities last year reached a new record of effectiveness. Spring and summer campaigns instituted to promote sales of gas and gas appliances were splendidly integrated. Efforts of gas utilities, gas appliance manufacturers and dealers were united with spearhead campaigns carried on by A.G.A. and Gas Appliance Manufacturers Association. World conditions and artificial shortages created by "scare" buying caused a temporary gap in the intensive selling efforts of the industry just before the fall and winter campaigns. Many of our companies proceeded with their promotions as planned. Others were quick to appreciate the possibilities in resuming their sales efforts. The net result was the achievement of new records in sales of gas and gas appliances.

National advertising

The gas industry invested \$6 million in newspaper and magazine advertising during 1950 in promoting sales of residential gas appliances. Newspapers again headed the list, with gas companies, manufacturers and dealers investing \$3,200,000 in this medium. The remaining \$2,800,000 was spent in national consumer magazines by manufacturers who spent \$2,160,000 and by A.G.A. with an expenditure of \$640,000. In addition, the Association spent \$120,000

for promoting use of gas for industrial and commercial applications. Gas companies last year spent 35.9 percent of their advertising budget for newspaper advertising, as compared with 33.9 percent by all utilities.

Major domestic gas appliances promoted by both newspaper and magazine advertising were the range, the water heater in combination with the automatic gas clothes dryer, and the refrigerator. Nationwide sales campaigns were conducted in behalf of these appliances with a complete coordination of advertising themes by the Association, appliance manufacturers, gas utility companies and dealers. The all-year gas air conditioner and gas incinerator received a substantial volume of local newspaper promotion.

Promotion

Four major campaigns to increase sales of gas appliances were conducted during 1950. February and March were devoted to a "Size 'Em Up" campaign featuring water heaters and clothes dryers. During the two months, sales of gas water heaters increased 72.7 percent over the comparable period in the previous year. A "Spring Style Show" campaign for automatic gas ranges was launched in April and proved most effective. In July, a "Clean Sweep" campaign to sell refrigerators was launched in cooperation with Servel, Inc. This campaign aided in lifting sales of gas refrigerators more than 50 percent above a year ago. This was followed by a "Sell 'Em Comfort" campaign on house-heating, air conditioning and incineration.

"How-To-Do-It" books were prepared for each of these campaigns, with plans for complete sales and promotional campaigns for gas utility companies. As noted previously in this report, the "Old Stove Round Up" campaign scheduled to open in the fall was partially blocked by the serious aspect of affairs in Asia. Many companies carried out their original plans to stage Old Stove Round Up promotions to the fullest extent. Other companies participated in varying degrees, helping to lift sales of automatic gas ranges to the all-time peak of 3,100,000 units for the year.

The Promotion Bureau is producing a series of "Big Ten" booklets listing the ten most important questions to be considered in selling each of the seven domestic gas appliances and additional books devoted to house heating, gas

laundries and natural gas. Six of the booklets were produced in 1950 and the other four will be ready early next year.

Spearheaded by Hugh H. Cuthrell, my predecessor as president of A.G.A., a project on Automatic Range Ignition Development was launched. Many meetings were held of a special committee appointed by Mr. Cuthrell. At the year-end the project was well advanced. Some 200 gas ranges equipped with one of the ten different ignition systems under consideration are now being field-tested. From the results of these tests, it is believed, will develop a single-point ignition system for gas ranges that will consume little or no energy when not in use.

Uncertainties cloud the horizon for 1951, but promotional plans of a flexible nature have been approved for the coming year. (See page 20.)

New Freedom Gas Kitchen

The first part of 1950 marked the success of the A.G.A.-McCall Magazine motion picture, "New Freedom In Her Modern Gas Kitchen" with nearly 100 copies of this film sold to gas utility companies. The New Freedom Gas Kitchen Bureau cooperated with the National Plan Service, Inc., in a new four-color book on home planning. Several illustrations of New Freedom Gas Kitchens and Laundries were included in the book.

Several major kitchen cabinet manufacturers displayed New Freedom Gas Kitchens at the Atlantic City Convention. Close contacts have been maintained with leading women's magazines and articles have appeared in *American Home*, *Women's Home Companion*, *McCall's*, *Ladies Home Journal* and *Parents Magazine*. Reprints of several of these articles have been merchandised to gas utility companies.

Research

Increasing quantities of natural gas are becoming available in many areas on the Eastern Seaboard and other manufactured gas areas. Some companies came face to face with problems of expanding interim gas supplies and peak shaving and emergency supply. Considerable attention has been given these problems under the Gas Production Research program.

One new project initiated in this group is directed at interchangeability of oil

gas and natural gas. Utilization research was concentrated on projects covering characteristics of applying heat in gas appliances. Venting, ignition and combustion are three of the major characteristics being studied in some of the 20 utilization research projects being conducted. Many bulletins and reports covering important phases of gas production, technical and utilization research studies were distributed during the year.

Statistical Bureau

The Bureau of Statistics prepared and issued the 1949 edition of *Gas Facts* last year. Approximately 3,000 copies of this valuable statistical volume were distributed, including copies to interested outside groups such as banks, insurance companies, utility analysts and investment houses.

The third annual review of existing and prospective house heating customers was released during 1950. This survey was expanded to include prospective house heating customers for the next two years. Responses were obtained from gas companies accounting for more than 90 percent of all residential gas customers.

Other important contributions of the Bureau of Statistics included a survey of residential gas service breaking down residential gas customers by counties. Regular reports were published on gas sales, customers and revenues. A construction expenditure survey covered the years 1950-1954. Estimates of steel requirements of the industry excluding natural gas production and transmission and a study of the economic effects of gas conversion, were published.

Utilization

Developments in gas utilization during the year included studies of comparative fuels and appliances that have been of assistance to gas utility sales forces, particularly in the commercial cooking field. Reports also suggested means by which gas range performance can be substantially improved so as to surpass competitive appliances.

Much work was done on ordinances looking to the needs of small communities that cannot afford to publish an adequate gas ordinance and are located in states where there is no legis-

(Continued on next page)

Gas industry

(Continued from preceding page)

lation for adopting recognized codes by reference.

A vital step forward was assured when American Standards Association approved the revision of the standards on the Installation of Gas Piping and Appliances in Buildings which were prepared by the A.S.A. Z21 Committee. The gas industry now has a national standard for adoption as part of building codes. This standard has been adopted by the National Fire Protection Association.

Positive proof was obtained by extensive tests that meat shrinkage in commercial gas equipment operating at low roasting temperature was 5.6 percent of the original weight of the meat, while radiant type ovens caused shrinkage of 13.4 percent. In roasting at 325 degrees shrinkage was shown to be independent of the method used.

Authoritative fuel replacement factors that will aid gas utilities in bidding on federal projects was furnished to government agencies.

Publicity

The increasing importance of the gas industry in the national economic system has resulted in much favorable publicity, in national magazines, newspapers, on the radio and on television screens. Women's magazines devoted much space to domestic gas appliances. National magazines such as *Fortune* and *Business Week* authored comprehensive articles on natural gas; newspapers devoted special issues and supplements to both natural and manufactured gas. More and more gas utilities are adapting television as a means of communicating the superiority of gas and gas appliances to the public.

Publications

Organization of a Publications Bureau to produce or direct the publication of all A. G. A. printed material was completed during the year. This bureau has been effective in further improving the high standard of publications which continually channel information to the gas industry. For the fourth consecutive time, A. G. A. MONTHLY won the highest award of the International Council of

Industrial Editors for excellence of editorial content and design. It was the only association publication to achieve this recognition.

Conclusion

Many factors point to a continuance in 1951 of the record breaking achievements of 1950. Except for a few areas, the gas supply problem is rapidly being solved with the growth of the natural gas system and the advances in manufactured and mixed gas plants that are helping to meet peak loads. Our member companies continue to back their faith in the future of the industry with their contributions to the PAR Plan.

Rising costs of producing, transmitting and distributing gas indicate that some further rate adjustments may be necessary, particularly if the tax burden of the gas utilities is increased heavily. Shortages of materials, resulting from a heavy conversion to war production, might necessitate delays in construction and expansion programs as well as limiting supplies of appliances. These are matters mostly beyond the control of the gas industry.

Round-table

(Continued from page 13)

or death, be sure someone knows of your wishes, such as place of hospitalization, place of burial, etc.

(12) *Notify draft board*—If you are under age of 26 and you are called in the reserves.

(13) *Absentee ballots*—Determine proper steps and arrange to obtain ballots.

(14) *Change of address card*—File with post office, have mail forwarded to some responsible person.

(15) *Taxes*—Have all property taxes and income taxes paid to date, arrange to file income tax return while away.

(16) *Credit resources*—Arrange for your family to obtain credit or loans in emergencies.

(17) *Mortgages and land contracts*—Arrange with lender for deferment of principal payment, if necessary. Check your GI loans provisions and the Soldiers' and Sailors' Civil Relief Act.

(18) *Bank account*—Make your bank account a joint account. Arrange for statements.

● **Federal civil defense administration formed**—On December 1, 1950 an executive order was issued from the White House establishing the Federal Civil Defense Administration in the Office for Emergency Management of the executive office of the President.

Basic purpose of the Federal Civil Defense Administration shall be to promote and facilitate the civil defense of the United States in cooperation with the several states. Subject to the direction and control of the

President, this organization shall perform the following functions:

(1) Prepare comprehensive Federal plans and programs for civil defense of the United States and coordinate them with the civil-defense activities of the States, of neighboring countries, and, with the consent of any such country, of any state, province, or similar political subdivision.

(2) Conduct or arrange for the conduct of research to develop civil-defense measures and equipment and to effect the standardization.

(3) Disseminate civil-defense information and exchange such information with foreign countries.

(4) Conduct or arrange for training programs for the instruction of state and local civil-defense leaders and specialists in the organization, operation and techniques of civil defense.

(5) Assist and encourage any two states or groups of states or any one or more states and any neighboring state, province, or similar political subdivision of a foreign country, with the consent of such foreign country, in negotiating and entering into agreements or compacts for mutual aid across States lines, or into or out of the United States, to meet emergencies or disasters from enemy attacks which cannot be adequately met or controlled by the local forces: Provided, that all such agreements or compacts shall be subject to the consent of Congress.

● **Cost of living index**—The Consumer's Price Index, released the last week in November by the Bureau of Labor Statistics, stands at 174.8 for the period ending October

15. First direct consequence of the continued upward movement of CPI is that over 300,000 General Motors hourly paid workers will get a three-cent raise within the next week or so. The company also announced a \$55 cost of living boost for salaried workers for the next three months. GM's .8 point correction in BLS Index to cover higher housing costs usually compensates its workers ahead of others covered by cost of living clauses.

The October BLS Index is now 2.7 percent greater than June 1950 (pre-Korea); 3.7 percent greater than October 1949; and 31 percent higher than at the end of price controls in June 1946.

● **Cost of living wage adjustments**—"Cost of Living Wage Adjustments in Collective Bargaining" is the title of a new report prepared by Bureau of Labor Statistics. The texts of ten important union contracts are included. The report indicates that the six major problems that must be faced in devising the best possible formula for a particular bargaining situation are: (1) choice of the index to use, (2) selection of the base point for future wage changes, (3) how wages should be adjusted according to changes in the index, (4) upper and lower limits on automatic wage changes, (5) frequency of wage adjustments and (6) effect of the revision of the Consumers' Price Index. The Bureau of Labor Statistics does not put itself in the position of recommending any specific clause among those it described, but its observations and examples prove helpful to those who are contemplating the use of such a clause. (Continued on next page)

● **Utility offers sale of stock to employees**—Employees of The Dayton Power and Light Company will have an opportunity to purchase 50,000 shares of the company's common stock in a special program announced by Kenneth C. Long, president.

Important feature of the plan is that it will be a continuing program. Officials believe that it is the first of this type ever offered by a utility company.

Actual purchases can be made each six months either by cash or through payroll deductions. Primary restrictions on the amount that can be purchased by any one employee are a limit of 250 shares for cash in any one year and a ceiling of 15 percent of regular wages on payroll deductions.

Mr. Long explained that the restrictions on the amount of stock that can be purchased by any one employee will mean that all who desire may participate. He said that the limitation on payroll deductions was simply an effort to avoid possibility of individual financial embarrassment.

Price per share for the initial sale which took place in October was \$26.25. This was approximately 15 percent less than the average market price of the stock for the last twelve months. Price for each subsequent purchase date will be computed on the same basis.

Mr. Long pointed out that this employee-stock program was created purely as an investment opportunity. The executive committee of the board of directors which is charged with the responsibility of the administration of this program will have reports on any transfer of this stock issue from an employee to a non-employee. Every effort will be made to avoid speculation. The present dividends being paid on the common stock are at the rate of \$2 per share per year. Therefore, the employees purchasing stock under this plan

will receive a 7.6 percent return on their investment.

Other features of this unique plan include: A four percent interest paid by the company on the money accumulated in payroll deductions until it is used to purchase stock.

Employees are given a preference over officers of the company to purchase the available stock set aside for this use. Directors of the company who are not employees are not eligible to buy stock under this plan.

Payroll deductions may be lowered by the individual at any time. Also the money accumulated may be withdrawn with four percent accumulated interest and employees have the right to cancel their election to buy.

Every employee is eligible who performs some work in the quarterly period preceding the month in which he elects to buy stock. Absence on leave, furlough, or disability leave will not bar an employee.

The present allocation of 50,000 shares to this program may be increased by the company after taking the necessary action under the Securities Act of 1933, and otherwise.

● **Public Utility sight-seeing technique**—Maybe your company isn't in the market for as elaborate a public sight-seeing program as the one Pacific Gas and Electric Company of California conducted last July. Some of their experiences may suggest new ideas for a program of your own. The details of their project are contained in the article by Jane Eshelman Conant called "Public Utility Sight-Seeing Technique" in the November 23, 1950 issue of *Public Utilities Fortnightly*.

● **Compensation and pensions of executives**—What are current levels of compensation for top management? To shed light on this problem, National Industrial Conference Board has again compiled data on the aggregate compensation of officers and directors and the individual salaries, bonuses and es-

timated pensions of the three highest paid in over 1,275 companies. The coverage of this study was broadened to include utility, transportation, insurance, retail and wholesale companies, as well as manufacturing companies.

Copies of this report will be found in the Conference Boards' *Studies in Personnel Policy*, No. 111.

● **Pension plans in words and pictures**—Management continues to find new means and methods of telling its pension-program story. The United States Metal Refining Company, for instance, puts a gold and green cartoon booklet in a leatherette wallet for each worker, reminding him of both the money he will receive from the pension fund and its source.

Other companies are using moving pictures, cartoons, statements of each individual's share in the benefit "bank," and quizzes to put the story across. The need for telling the whole pension story and some recent examples of graphic presentation appears in the Conference Boards' *Management Record*, December issue.

● **Problems in '51 for CIO**—The first convention of the CIO held without communist-dominated unions in attendance revealed some significant highlights facing the CIO in the coming year: (1) controversy on the public power issue; (2) an increase in CIO membership despite the expulsion of 11 communist-dominated unions; (3) the beginning of new jurisdictional fights in the CIO; and the (4) formation of a new left wing within the CIO. Complete repeal of the Taft-Hartley Act is still CIO policy, although some CIO officials feel differently. Significant developments that took place at the 1950 CIO convention are noted in the December *Management Record* published by the National Industrial Conference Board.

Promotion

(Continued from page 21)

and commercial fields will continue to be concentrated on the case history type of advertising. This has been demonstrated by experience to be the best approach to the markets we desire to reach. In planning its program for 1951 the committee in charge pointed out the following:

Industrial and commercial gas sales now represent 63.5 percent of total sales, while industrial and commercial gas revenues represent 38.8 percent of total revenues.

Even more significant is the fact that since 1935 industrial and commercial revenue per customer has increased by 79.4 percent while number of customers has increased by 63.8 percent. This compares with an increase in revenue per residential customer of 36.8 percent with a 47.5 percent increase in number of customers. In other words, there has not only been a greater percentage growth in

number of industrial and commercial customers than there has been in residential customers, but also a greater percentage growth in revenue per customer.

As gas house heating continues to grow by leaps and bounds throughout the country, the need for building a larger counterbalancing industrial and commercial load also increases.

As natural gas supplements and replaces manufactured gas in areas that have previously served only manufactured gas, new industrial and commercial market opportunities arise. Aggressive advertising can be of real assistance in winning these markets for gas.

Twenty-three leading and nationally known business papers will be used in 1951 to carry this advertising. The schedule of insertions will give approximate equal weight between industrial and commercial messages. Twelve markets will be reached, five industrial and seven commercial. The new series of advertisements addressed to management,

introduced successfully several months ago, will be continued. An effort is now being made to have manufacturers step up the volume of their brand-name advertising in the same business papers the Association will use. This will increase the volume of gas advertising to the point where it will compare more favorably with that sponsored by competition.

Whose responsibility is it to tell our story to the American public in these publications? It is a dual responsibility to be shared by gas companies and manufacturers—with the gas companies contributing to the PAR Plan and financing the Association's national advertising program and the manufacturers advertising their own products and brand names in the same publications the Association is using and perhaps others as well. The A. G. A. cannot do it alone and neither can the manufacturers. It must be a joint endeavor with a common objective.

Is your company protected?

(Continued from page 6)

manpower, procurement of reserve facilities, etc. The group has planned the removal of essential offices and personnel from their present vulnerable position in the city to scattered locations in the suburbs in case of attack. Micro-filming of essential records has been almost completed. Studies of interconnection with other electric utilities have been completed. This group sometimes overlaps with the plant security and protection group in recommending plant items.

Auxiliary operations—The director of this group has charge of all planning and direction of auxiliary services such as fire fighting, rescue evacuation, transportation, medical services and supplies. A questionnaire was sent out to all employees requesting their former experience in armed services or abilities in other types of work associated with defense. These employees were classified as to company positions and geographical location to determine where they could best be used. A complete organization for performing the various required functions is being activated.

B. Large gas company

This utility is cooperating closely with local municipal organizations to coordinate protective and security activities.

Under its plant and personnel protection program, birth certificates or equal identification are required on all employees. In addition, all employees are encouraged to be alert and report suspicious activities of any individual. Plans are being formulated for the routing of gas and emergency measures in event critical equipment is put out of commission by bombing or sabotage. Each community in which the company distributes gas will shortly have a plan for emergency operation which includes making available a telephone directory of key personnel. Report centers are being set up for employees in event of emergencies. The company is also preparing block or similar maps which will be placed at strategic locations during emergency. These maps will show location of lines and will be used to facilitate and expedite the isolation of gas in defined areas. Pipeline location and identification markers will be removed where advisable.

Auxiliary power for use in ready transmission and receiving is being installed at certain transmitting centers. Protective fencing, special lighting, and plant guards also are being installed where they are not available now.

Emergency repair materials are being stockpiled at special locations for use in the event warehouse materials are not available. Mobile radio transmitting units are being strategically located throughout the system. This will permit limited communication in the event normal communication facilities are out of action.

C. Gas department, combination company

Gas properties of this company include one regulator station, and the usual office buildings, shops and warehouse facilities. The defense plans are as follows:

Tamper-proof identification cards have been issued to all employees of the gas department. A numbered visitor's pass is issued to each person visiting any part of the gas department other than the office. Numbered badges are issued to employees of any contractor working on gas department property.

After regular working hours, and on Sundays and holidays, all entrances and gates to gas department properties are closed and locked. Entrances can be opened only through the main gate which is equipped with lock operated by remote control. Persons seeking admittance must be able to identify themselves satisfactorily. Vaults and/or manholes containing main line high pressure valves have been locked.

A defense program is being worked out at the present time which will protect the system in event of air raid. Additional training of employees is contemplated.

D. Large combination company

Starting in early August, this company embarked upon a plant protection and internal security program designed to cope with existing problems, but flexible enough to be expanded in the near future. A special system security committee was recruited to handle this program among top level men of the company. This committee delegates execution of the program in each of the company's three geographical divisions to a division security officer. This man directs details of the program and acts as coordinator within that division. He also handles essential contacts between the company and local civil defense directors, police, sheriffs, and federal or military investigative agencies.

Steps to protect against sabotage include keeping gates and doors to installations locked at all times. There is controlled admittance to plants and other installations. Inspection of all existing fire fighting equipment has been stepped up and new equipment installed. Provision has been made for flood lighting of installations. Armed guards will be added when and if conditions warrant.

The following steps have either been taken or are being taken to guard against espionage: Increased security regulations on maps, drawings, etc., of vital company installations. Identification card system is being revised. Employees are being screened as far as permissible under law, particularly employees in critical installations. Plans are being drawn up for fingerprinting and loyalty checks.

In addition, the companies cooperating with local civil defense authorities are drafting plans to coordinate efforts which will maintain or restore service in event of enemy attack. Of special significance, is the emphasis placed on perfecting mobile radio inter-communications within the operating system. No concrete steps have been taken yet or any contemplated in the near future regarding air raid shelters for personnel. This is due to the fact that the company's buildings are well dispersed.

A number of companies failed to reply to the MONTHLY survey for one reason or another. One utility president referred the editor to the Public Service Commission in his state. This group has conferred with local utility companies and has drawn up a general plan for civilian defense.

A member of the Commission staff referred the editor to this general plan and announced that the commission wants to keep individual company plans in strictest confidence.

A number of the companies surveyed indicated that they are just starting to organize their defense programs. A top official of one of these utilities noted that his company is in close touch with the local civil defense committees. A subsidiary of this group, a utility committee, is preparing plans for mutual aid, if necessary to restore and maintain service.

"With respect to sabotage, which is a very possible thing," this official stated, "we feel there is little that can be done other than to follow good operating practices." This company has taken the precaution of locking plant enclosures to keep out intruders.

Officials of a large gas company in another strategic location are cooperating with local defense authorities in the various districts of the system. City departments and other utility committees are being consulted. Precautions against sabotage in this company are on the same basis as during World War II. All vital producing and distributing property is under guard or lock and key. A skeleton organization for restoring service in event of bomb damage has been established. Remote control headquarters have been established. No training drills have

been held although emergency activities have been alerted for action. No duplication of records has been undertaken beyond normal procedures.

In this company's headquarters city, all personnel are being screened on the basis of police department records. When the present roll has been covered, this procedure will be continued for all new employees.

This summary of plant and personnel protection programs shows that some companies are already far advanced. In others, much remains to be done. Every program, no matter how complete at the moment, can stand review and improvement to keep it abreast of world developments.

The point is simple and clear—the emergency is at hand. Protection is everyone's business.

Operating offensive

(Continued from page 33)

gather this information and prepare it for dissemination throughout the industry every three years. Wrinkles should be forwarded to J. J. Gagen, Consolidated Edison Co. of New York, Inc.

With electric competition so keen in the base load appliance field, an important question in the minds of management of many companies is "What is the customer's reaction to service? Can we justify the cost of service in terms of customer relations and load retention?"

Obviously, the group feels that we can, but more concrete evidence to support this contention is desired. The subcommittee hopes to exploit this subject and uncover facts either to prove or disprove the contention.

The effect of new house heating load on customer service is an unknown quantity to many companies. Other companies have experienced abnormally rapid growth in this field and are aware of many of the accompanying pitfalls. Here again the inexperienced can gain much valuable information from those who have experienced this growth. The Subcommittee on Work on Consumers' Premises is working on such a project and expects to report on it at the spring conference.

● **Water Gas Subcommittee**, C. E. Leech, Public Service Electric and Gas Co., Newark, N. J., chairman—With arrival of natural gas in more and more areas of the country, the most pressing problems for this subcommittee are intelligent use of water gas and other equipment for reforming natural gas, and peak shaving with carburetted water gas.

Three companies from the New York area, The Brooklyn Union Gas Co., Consolidated Edison Co. of New York, Inc., and Public Service Electric & Gas Co., are being asked to present papers entitled "Recent Experiences in Reforming Natural Gas." These will give three different approaches to the problem and the reasons for each solution. In addition, the subcommittee will sponsor two papers on catalytic cracking of natural gas by representatives of Long Island Lighting Company and The Philadelphia Gas Works Company.

A luncheon meeting with panel discussion on important problems is scheduled again this year. The group has prepared a large number of discussion topics but is looking for additional suggestions from the industry.

● **Gas Odorization Subcommittee**, D. L. White, Washington Gas Light Co., Washington, D. C., chairman—Advent of natural gas to the large consumer markets in the East places a singular responsibility on this group. Heading its list of jobs is the development of odorization standards and procedures.

Development of standards for evaluation of odor level in distribution systems will occupy the first efforts of the subcommittee. The committee feels that the gas industry should take the lead in preparation of suitable standards. It is the subcommittee's aim to present its recommendations to A. G. A. in the near future for early clarification.

The most promising procedures now available for establishment of odor level standards include those based upon: (1) chemical determination of odorant concentration in sendout gas; (2) study of leak complaint surveys interpreted in the

light of service experience prior to odorization practice; (3) the so-called "room test" as adopted by National Board of Fire Underwriters; (4) portable odorimeters proposed by Bureau of Mines. To bring the matter of odor level standards to the attention of operators and distribution men, a paper on the subject will be sponsored by the subcommittee for the spring conference.

Another important topic, rating commercially available odorants as to relative stability, potency, and resistance to soil adsorption, will be investigated by representatives of Phillips Petroleum Corp., Minneapolis Gas Light Co., and California Research Corporation. Soil adsorption is of particular importance for establishing reliable leak data.

Emphasis will be placed also on support of a research project for development of superior odorants. Apart from the Gas Production Research Committee's current project on odor type, no research program exists. Mr. Bayer, The Brooklyn Union Gas Co., will report to the Subcommittee regarding research funds available and status of the gas production research work. In this connection, the development of sulfur-free odorants appears desirable. Mr. Hake-will, Institute of Gas Technology, has proposed to compile information bearing upon the general problems of corrosion and gum deposits insofar as odorization practices are concerned.

An additional event at the Section's organizational meetings was the establishment of dates for the 1952 conferences. The Distribution, Motor Vehicles & Corrosion Conference will be held in Philadelphia, April 7-9, 1952. The Production & Chemical Conference is slated for New York City, May 26-28, 1952.

Residential

(Continued from page 37)

Freedom Gas Kitchen and Laundry Exhibits at this important convention and exhibit which will be held in Cleveland in the latter part of June or early July, 1951. This convention and exhibit is of growing importance. Many members of the industry feel that A. G. A. and its affiliates should make a much stronger showing at the annual exhibit.

(5) Other booklets, magazines, reprints, resale material, etc.—Shortly after the turn of the year, a new 16-page black and white booklet, "Kitchen Planning Guide," will be released for resale to utility companies by the New Freedom Gas Kitchen Bureau. It is expected that sales will approximate 100,000 copies during 1951. Also, the Promotion Department will make available to the Bureau 100,000 copies of a small eight-page kitchen booklet known as "Ten Key Pieces to Modern Kitchen Planning." This booklet is part of the "Big Ten Series" and does not conflict with any of the Bureau's previous or currently planned materials for utility companies. In addition to these items, plans have been made with several of the leading women's magazines for reprints of articles on all-gas kitchens and laundries which will be feature editorials in these same magazines during the coming year. Also, it is expected that the Bureau will resell to utility companies at least 1,500,000 kitchen book matches, 50,000 memo pads, plus the usual quantities of regular resale items such as kitchen and laundry pages, calendars, kodachrome slides, etc.

● **Home Service Committee:** Chairman—Vivian L. Marshall, home service director, New Orleans Public Service Inc., New Orleans.

The Home Service Committee will continue in 1951 its work of preparing helpful subject matter for use by gas industry home service departments. The current Home Service Workshop will be held in Washington, January 3-5, 1951. The program will cover all phases of home service operations, including gas and equipment explanation and promotion, symposiums and group discussions.

Proposed projects for this year include: Completion of the fourth book in the Home Service Manual, "Organization and Promotion of Home Service Work;" a broiler study based on a survey of home service practices in customer explanation; subject matter information on home service promotion of hot water and the laundry dryer.

● **Dealer Relations Committee:** Chairman—W. D. Williams, assistant to sales manager, Public Service Electric & Gas Co., Newark, New Jersey.

Recognizing the increased importance of the dealer in the scheme of appliance merchandising, this committee was reactivated for the year 1951. The committee will devote its activities to calling the attention of the gas industry to the importance of the dealer. It will design programs and material to assist gas companies to effectuate closer cooperation with dealers at the local level.

The group will also sponsor a series of effective articles on the subject of the dealer and dealer cooperation for

publication in the dealer trade press and will arrange for speakers on this subject at the various conferences sponsored by the Section.

● **Committee on Housing:** Chairman—James E. West, new construction sales manager, Washington Gas Light Co., Washington, D. C.

The Committee on Housing will continue its efforts to assist gas utility companies to increase the sale of modern gas service in the Residential Housing field, in addition to Government housing projects. The results of studies of successful plans used by gas companies in selling the builder will be made available by the committee to the gas industry.

The committee has prepared a program consisting of a series of monthly bulletins to gas utility companies. These will provide information and details, including copies of Government publications, which are used as a basis of the selection for the service and equipment in such projects. These bulletins will start in January. They will feature such information as methods of procedure, contacts, rates, appliance servicing policies and charges, competitive fuel data, and other information.

● **Committee on Improving Domestic Gas Appliances:** Chairman—E. J. Nelson, laboratory director, Rochester Gas & Electric Corp., Rochester, New York.

The committee will continue its activities in reviewing existing "CP" Range Requirements. Purpose will be to recommend the upgrading of such requirements so that an automatic gas



Hiram Burrell Hardwick

comptroller and director of Consumers Power Co., died of a heart attack at his home in Jackson, Mich., last month.

Mr. Hardwick was a leader in public utility affairs in New York City, Birmingham, Ala., and Michigan. His utility career began in 1918 with Alabama Power Company. In 1925 he moved to New York with Southeastern Power

& Light Co., one of the predecessor companies forming the Commonwealth & Southern Corporation of which he was assistant comptroller from 1930 until 1947. He was elected comptroller of Consumers Power Company in July 1947 and elected to the board of directors in September 1949.

Mr. Hardwick was a member of the Controllers Institute of America and the New York Society of Security Analysts. He was also active in the affairs of American Gas Association and Edison Electric Institute. He was chairman of the joint committee of both associations to study proposed revisions in NARUC System of Accounts for the gas and electric utility industries. Mr. Hardwick attended Alabama Polytechnic Institute in Auburn.

He is survived by his wife and nine children,

John, James, Mary, Robert, Catherine, William, Carol, Charles and Mrs. William J. Sullivan, all of Jackson, Mich.; his mother, Mrs. George H. Hardwick; a sister, Mrs. James Oliver of Atlanta, and a brother, James Hardwick of Selma, Alabama.

L. T. W. (Tim) Timberlake

former manager of the gas utility sales division, M. M. Hedges Manufacturing Co., Inc., Chattanooga, Tenn., died on November 27, 1950 after a three-month illness.

Mr. Timberlake developed a host of friends during his 30 years of association with the gas industry. He was noted as being chiefly responsible for the Hedges line of gas water heaters, specifically engineered for utilities.



1951

FEBRUARY

- 16 • A. G. A. Great Lakes Personnel Conference, Palmer House, Chicago, Ill.

MARCH

- 12-14 • Mid-West Gas Association, annual convention, Hotel Fontenelle, Omaha, Neb.
26-27 • A. G. A. Eastern Natural Gas Regional Sales Conference, William Penn Hotel, Pittsburgh, Pa.
29-30 • New England Gas Association, annual meeting, Hotel Statler, Boston
29-30 • Oklahoma Utilities Association, annual convention, Mayo Hotel, Tulsa, Okla.

APRIL

- 2-4 • A. G. A. Sales Conference on Industrial and Commercial Gas, Industrial and Commercial Gas Section, Shoreham Hotel, Washington, D. C.
9-11 • A. G. A. Mid-West Regional Gas Sales Conference, Residential Gas Section, Edgewater Beach Hotel, Chicago, Ill.
10-12 • Southwestern Gas Measurement Short Course, University of Oklahoma, Norman, Okla.
16-18 • A. G. A. Distribution, Motor Vehicles and Corrosion Conference, Hotel Peabody, Memphis, Tenn.
16-18 • GAMA annual meeting, Drake Hotel, Chicago, Ill.
19-21 • Florida-Georgia Gas Association, Hollywood Beach Hotel, Hollywood Beach, Fla.
23-25 • Southern Gas Association, Biloxi, Miss.
23-25 • National Conference of Electric and Gas Utility Accountants, Hotel Sherman, Chicago, Ill.
26-27 • Indiana Gas Association, French Lick Springs Hotel, French Lick, Ind.

MAY

- 7-8 • A. G. A. Natural Gas Department, spring meeting, Baker Hotel, Dallas, Texas
7-9 • Missouri Association of Public Utilities, Jefferson Hotel, St. Louis, Mo.
7-11 • National Restaurant Exposition, Navy Pier, Chicago, Ill. (A. G. A. will exhibit)
14-16 • A. G. A. Production and Chemical Conference, Hotel New Yorker, New York, N. Y.
14-18 • A. G. A. Industrial & Commercial Gas Section, Industrial Gas School, William Penn Hotel, Pittsburgh, Pa.
15-17 • Pennsylvania Gas Association, Wernersville, Pa.

OCTOBER

- 15-18 • A. G. A. annual convention, St. Louis, Mo.

range built to "CP" standards will be the ultimate in modernity, efficiency and complete consumer satisfaction.

● Window & Store Display Committee: Chairman to be announced.

The Window & Store Display Committee will produce two issues of the Bulletin, which will feature display and display ideas designed to tie-in with the 1951 appliance sales and promotional activities.

All of the Section's Committees will meet during April and May to prepare their sales, advertising and promotional campaigns for the year 1952, under the Section's program of "year ahead" planning.

The three Conferences sponsored by the Section are planned for the year 1951. The Eastern Natural Gas Regional Sales Conference will be held in Pittsburgh March 26 and 27, 1951; The Mid-West Regional Gas Sales Conference will be held in Chicago April 9-11, 1951; and, the New York-New Jersey Regional Gas Sales Conference will be held in June.

New PAR drive

(Continued from page 10)

He is currently a director of A.G.A. and was a member of the original PAR Committee.

Promotional activities will be headed again this year by Frank C. Smith, president, Houston Natural Gas Corp., as chairman, A.G.A. General Promotional Planning Committee. Mr. Smith is now serving as a director of the Association.

L. E. Knowlton, executive vice-president, Providence Gas Co., Providence, R. I., has been named chairman of the General Research Planning Committee. Mr. Knowlton is a past-chairman of the A.G.A. Operating Section and has been active in A.G.A. research for many years.

An impressive list of "team captains" has been named to supervise different phases of promotion. Christy Payne, Jr., vice-president, The Peoples Natural Gas Co., Pittsburgh, has been elected chairman of the National Advertising Committee. Carl H. Horne, vice-president, Alabama Gas Corp., as chairman will direct Residential Gas Section activities. Carl H. Lekberg, Northern Indiana Public Service Co., is the new chairman of the Industrial & Commercial Gas Section. C. J. Allen, vice-president, The Connecticut Light & Power Co., is new chairman of the Publicity and Advertising Committee.

The following chairmen have been reappointed to head research "team" activities: Technical and Research Committee—Elmer F. Schmidt, vice-president, Lone Star Gas Co., Dallas; Gas Production Research Committee—Edward G. Boyer, Philadelphia Electric Co.; Committee on Domestic Gas Research—R. J. Rutherford, president, Worcester (Mass.) Gas Light Company. F. T. Rainey, vice-pres-

ident & general manager, East Tennessee Natural Gas Co., Knoxville, takes over the chairmanship of the Committee on Industrial and Commercial Gas Research.

This hard-working line-up of executives and supporting committees will play a vital part in the industry's affairs during 1951. With a weather eye on changing conditions and future needs, they will channel the full power of the PAR Plan into activities that will keep gas service and equipment at least one step ahead of competition.

Membership in service

THE Association's Executive Board on December 6, 1950 adopted the following resolution:

"That all individual members of A. G. A. in good standing at the time of entering military service of the United States be continued as members without payment of dues, until the close of the fiscal year next following their discharge from active military duty. At the request of such member, and/or when possible, the A. G. A. Monthly be sent to such members after they enter the military services of the United States."

A. G. A. Proceedings

LOOKING for back volumes of American Gas Association PROCEEDINGS? Several extra copies of A.G.A. PROCEEDINGS for 1929, 1931, 1932, 1935 and 1938-1943, are now available from Miss Catherine Heil, supervisor of files, Niagara Mohawk Power Corp., 300 Erie Boulevard West, Syracuse, N. Y.

Gas Abstracts

GAS ABSTRACTS, published by Institute of Gas Technology, Chicago, will enter its seventh year with the January 1951 issue.

This monthly publication provides busy executives and their staffs with comprehensive digests of all current literature bearing on the gas industry. More than 90 journals are surveyed each month and selected articles are abstracted by specially qualified staff members. This procedure combines wide coverage of the industry with the quality of abstract attained only by a scientist writing in his own field.

Author and subject indices are prepared annually, so that *Gas Abstracts* becomes an indexed yearly record of gas industry literature and development.

The publication is supplied to the Institute's associate member companies and contributors without charge. It is available to others at a \$15 annual subscription fee.

The author and subject indices to Volume 6, 1950, are nearing completion and will be distributed shortly. A limited number of copies of Volume 6 are still available.

Success

● A successful man knows how to step down his ideals and step up his ideas.

—P. K. Thomajan, *Phoenix Flame*

Personnel service

SERVICES OFFERED

Manager or General Superintendent. 20 years' experience in plant and distribution operation and maintenance. Eight and one-half years of this time spent as manager. Resumé of experience furnished on request. Interviews can be arranged. Available on 30 days' notice. Eastern or Southern location preferred. 1662.

Gas Sales and Promotion.—Diversified experience in all phases of gas sales, fuel estimates, layout and design of equipment, installation and servicing including the training and supervision of men for industrial, Commercial and Househeating. Many years' experience. Desires to locate in the Pacific Northwest. 1663.

Controller-Vice President, skilled administrator, employed large utility; previous heavy industrial experience. Keen analyst, gets things done minimum cost. Thorough knowledge accounting, auditing, finance, control, budgetary functions, surveys, investigations, taxes, insurance, government contacts. Educated business administration, accounting and law. Can relocate, U. S. or abroad; knowledge languages. 1664.

Executive—Operation or Sales.—16 years' supervisory, sales, engineering experience gas utilities. Practical knowledge most phases gas industry, L.P., Natural and Manufactured gas. South or West preferred but will consider other location. Available 30 days. Present position Commercial and Industrial Manager, including house heating for 25,000 meter property. —Married (41). 1665.

Sales—Advertising—Promotion Executive. Nearly 20 years' with large gas utility for whom outstanding results were obtained in sales, dealer cooperation, advertising, home service, publicity, public relations, employee publication and safety campaigns. Interested in connection with another utility or long pipeline company. Reasons for change will satisfy prospective employer. 1666.

POSITIONS OPEN

Gas Engineer, young man with engineering background and several years' experience around carburetted water gas sets. Small company in Pennsylvania anthracite field. Low living costs. Good salary. Write for appointment, giving age, education and experience. 0592

Natural gas interstate pipeline company, located in the middle west, has immediate need for an **Assistant Plant Records Supervisor.** Adequate salary commensurate with qualifications. In reply state in detail past experience, education, age, references, salary requirements, and enclose small photo. Replies confidential. 0593.

Sales Manager for gas utility with 28,000 meters and a growing bottle gas business. Operations cover manufactured gas, propane air and recently converted natural gas service. Location —Pennsylvania. 0594

Development Engineer wanted by Northern California Furnace Manufacturer. Must be thoroughly familiar with A.G.A. testing procedures. Previous experience with development for appliance manufacturer necessary. This position offers a good future with small manu-

facturer. Submit all personal data with snapshot together with detail of experience, references and salary desired. Replies confidential. 0595.

Office Methods and Procedures. Position open in large natural gas company located in the middle west for a man experienced in the development of office procedures and in the design and use of forms. To be considered applicants must furnish full details of qualifications, a brief personal digest, age and salary expectation. Replies will be confidential. 0596.

Immediate opening for I.B.M. Supervisor, capable of operating and supervising a new large installation. Requires good general knowledge of accounting and not less than five years experience in tabular work, preferably in the public utility field. To be considered for this position, located in a large mid-west city, applicants must furnish full details of qualifications, a brief personal digest, age and salary expectation. Replies will be confidential. 0597.

Engineer—Design, experienced in gas plant design for extensive program of new construction and improvement to present plant facilities by large eastern gas manufacturing company. Salary commensurate with experience. 0598.

Company Representative. Position open in sales and service in Northeastern territory. Background of distribution or gas measurement advisable. This is a nationally known concern of unusual stability and progressiveness. Compensation based on experience and contacts with gas utilities. 0599.

Water heater tests

(Continued from page 19)

they might be after an all-night recovery period, completely full of hot water with the thermostats satisfied. The curves show the outlet water temperature at the faucet as water was withdrawn at a rate of 4.5 gallons per minute. This rate of withdrawal is higher than usual for a single faucet but is readily reached if two faucets were discharging hot water at the same time.

By drawing a horizontal line across Figure 1 at the 110° level it is seen that the heaters would have delivered the following amounts of usable hot water:

USABLE HOT WATER AFTER 12-HOUR HEAT-UP			
Gallons of			
Gas	Heater	Nominal Storage Capacity	Hot Water Usable
A	Gas	30	22
B	Gas	30	30
C	Gas	30	30
D	Gas	45	43
E	Electric	80	80
F	Electric	50	49
F ¹	Electric	50	49
F ¹¹	Electric	50	49

A horizontal line across Figure 2 at 110° level shows that the heaters would have delivered the following amounts of usable hot water. This represents the conditions resulting when the heaters were recovering for two hours from a cold start (70° water). Note that certain

types of heaters show exceedingly poor characteristics under this test.

USABLE HOT WATER AFTER TWO-HOUR HEAT-UP			
Gallons of			
Gas	Heater	Nominal Storage Capacity	Hot Water Usable
B	Gas	30	30
C	Gas	30	28
D	Gas	45	43
E	Electric	80	25
F	Electric	50	48
F ¹	Electric	50	0
F ¹¹	Electric	50	0

A horizontal line across Figure 3 at 110° shows that the heaters would have delivered the following amounts of usable hot water. This represents the conditions resulting from a half-hour recovery from a cold start (70° water). With such a short recovery time only one heater (gas) yielded reasonably satisfactory amounts of hot water.

USABLE HOT WATER AFTER ONE HALF-HOUR HEAT-UP			
Gallons of			
Gas	Heater	Nominal Storage Capacity	Hot Water Usable
A	Gas	30	15
B	Gas	30	26
C	Gas	30	0
D	Gas	45	0
E	Electric	80	0
F	Electric	50	0

The whole study shows the real advantages which high water heater recovery rates offer to our customers. Gas heaters showed up to great advantage.

Manufacturers announce personnel changes

● **Eclipse Fuel Engineering Co., Rockford, Illinois.**—At a meeting of the board of directors A. C. Perks, member A. G. A., was elected to the office of president and general manager. Mr. Perks was formerly executive vice-president in charge of production. He is a member of American Gas Association. H. P. Howell, formerly president, was chosen chairman of the board of directors. Other officials of the company are: J. H. Sands, executive vice-president, and K. A. Scharbau, treasurer and controller. Eclipse Fuel Engineering Company manufactures a complete line of gas-fired industrial equipment.

● **Rockwell Manufacturing Co., Pittsburgh**—Wm. A. Marsteller has resigned, effective January 1, as vice-president of Rockwell and as vice-president and director of Edward Valves, Inc., East Chicago to establish The Marsteller Co., consultants in marketing and advertising. The new firm will be located in Chicago, after the first of the year. Mr. Marsteller has been responsible for advertising, market research and sales promotion for Rockwell Manufacturing Company and its 14 divisions.

H. Gottwald has been appointed assistant vice-president of Rockwell's meter and valve division. For the past year he has been assistant sales manager of Nordstrom Valve Division of the company. Prior to moving to Pittsburgh, Mr. Gottwald was assistant vice-president of Rockwell International Corporation.

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